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JULY 20 • 2015 EDITION
Forbes
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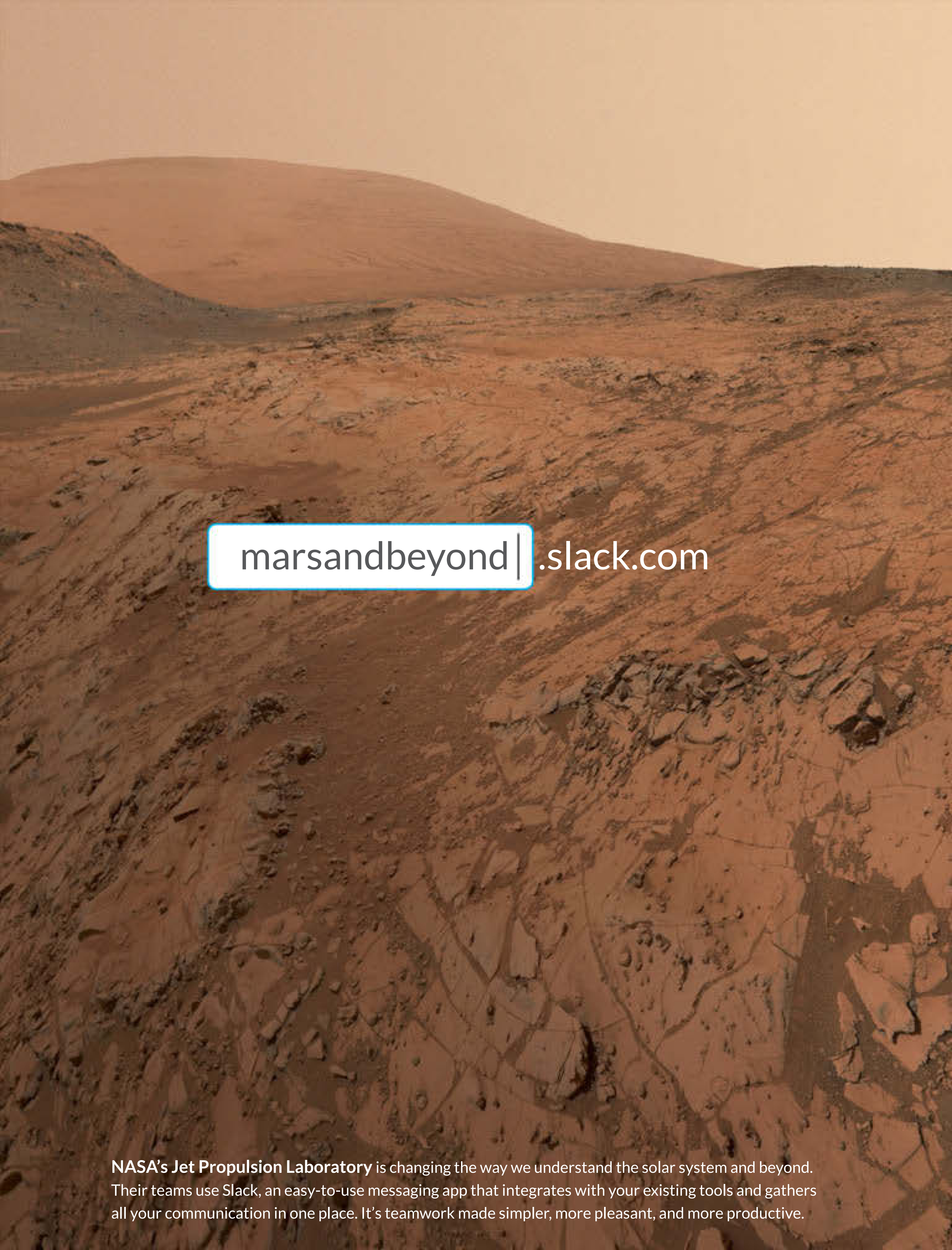
$135 MILLION
AMERICA'S
POP EXPORT
FAME HAS NEVER GENERATED SO MUCH GLOBAL FORTUNE
MEET THE PLANET'S 100 TOP-EARNING CELEBRITIES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NASA's Jet Propulsion Laboratory is changing the way we understand the solar system and beyond. Their teams use Slack, an easy-to-use messaging app that integrates with your existing tools and gathers all your communication in one place. It's teamwork made simpler, more pleasant, and more productive.


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work on purpose


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Forbes

ON THE COVER

Photographed by Jamel Toppin for FORBES at The St. Regis Rome. Katy Perry wears Moschino.

STYLED BY JOSEPH DEACETIS WITH EMANUELA FONTANA; MAKEUP BY TODD DELANO/CROSBY CARTER MANAGEMENT; HAIR BY CLYDE HAYGOOD/FORWARD ARTISTS.

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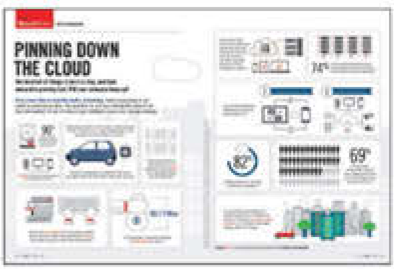
INSIDE SCOOP

How Print and Digital Go Hand in Hand

BY LEWIS D'VORKIN

IDEAS. TECHNOLOGY. DATA. Along La Croisette in Cannes, those three words captured the focus of last month's Lions International Festival of Creativity, the ad industry's annual celebration of itself and what it brings to the world. It's predominantly a digital thing. Still, each of the three times I've been, I get questions about how our magazine fits with the media world we live in today and the dramatic growth of Forbes.com. Here's the story of print I elaborated on this year, nearly five years to the month since we began to reinvent how we do what we do.

1. A cover strategy that fits our brand mission, with a relentless focus on people—entrepreneurs, change agents and the doers who want to make a difference with their money.

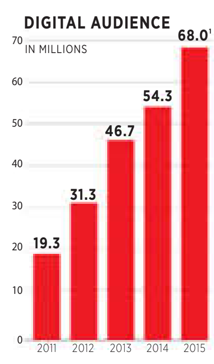


2. New ways for our marketing partners to engage with audiences *(see* "Pinning Down the Cloud," *p. 86).* Before it was called native advertising, we gave marketers a way to share their knowledge and insights with readers.

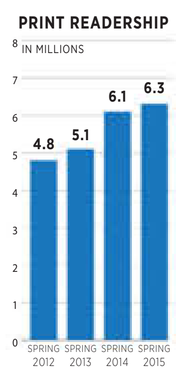
3. A social digital content strategy (staffers and 1,500 contributors creating and nurturing their individual brands) that works hand in hand with the people-centric magazine approach.

The Result: Increased readership directly attributable to these initiatives.

At Cannes a few attendees told me they follow me through this column and not on Twitter. That works for me—and our print product, too.



[1]Estimated. *SOURCE: GOOGLE ANALYTICS.*



SOURCE: GFK MRI SPRING SURVEY.

"With all thy getting, get understanding"

THE CONSTITUTION DOES IT MATTER ANYMORE?

BY STEVE FORBES, EDITOR-IN-CHIEF

THE SUPREME COURT decision to ignore the actual wording of the Affordable Care Act and allow federal subsidies to policyholders in states that don't have their own insurance exchanges is the latest sad—and dangerous—chapter in the erosion of the core principle of our Constitution: the separation of powers. Chief Justice John Roberts himself once talked about how a judge should be similar to a baseball umpire, making calls based on written rules. How quaint that sounds now after his latest demolition job on the Constitution.

The High Court, with occasional exceptions, has deferred more and more to the other two branches of government when they've committed acts that violate the basic law of the land, especially if the laws have expanded the power of the government. Liberal justices long ago adopted the attitude that the President should pretty much be free to do as he wishes if he's advancing modern liberalism. Our Founders focused on *how* laws are enacted. Today the focus is on the ends, not the means, which, of course, leads to tyranny.

Justice Roberts, to the applause of his liberal colleagues, has gone beyond the Supreme Court's supine attitude and is now in the business of *rewriting* existing laws. The constitutional challenge to ObamaCare that began soon after it was enacted in 2010 was based on the individual mandate. Never before had the federal government decreed that citizens had to buy a product or service. It's one thing to mandate that a person get a license before being permitted to drive on a public road but quite another to force people to purchase something. Yet on June 28, 2012 Roberts, in a convoluted decision that would have caused him to flunk a constitutional law class, decided that the fines imposed for not buying insurance weren't fines but a form of taxation.

Roberts, the law rewriter, was at it again last month in the subsidy case: Yes, Congress didn't draft the legislation very well, but we justices can divine what the legislators really meant or (even worse) what they should have meant. Justice Antonin Scalia, in his withering and on-target dissent, hammered home the seemingly obvious point that it is up to Congress to clean up its own messes.

For years state courts have notoriously expanded their powers, especially when it comes to state funding of education. Sadly, the Supreme Court has caught this virus.

More than a century ago "progressive" reformers like Woodrow Wilson made clear their belief that constitutional restraints on government had outlived their usefulness, that modern-age experts, using scientific methods, could wisely rule and not be hobbled by pedestrian politicians or intellectually obsolete judges who were still enamored with a document written in the preindustrial era.

The turning point for the High Court occurred during the New Deal. President Franklin Roosevelt's unprecedented peacetime expansion of Washington's powers was being stymied by the justices. The Court was unanimous in its decision to throw out as unconstitutional the New Deal's centerpiece, the National Industrial Recovery Act. This law had forced industries to write codes of conduct that mandated prices, working conditions and how businesses were to conduct their operations. This was statism—Fascism, if you will—which was a fundamental repudiation of traditional American free markets. Retailers were jailed if they violated these codes, especially if they charged lower prices than their competitors.

FDR was furious that his pet act was tossed out, which fueled his notorious attempt two years later to pack the Supreme Court with additional justices who would do his bidding. Roosevelt lost that battle but won the war. Ever since, the High Court has more often than not been a doormat for legislation that once would never have passed constitutional muster.

Of course, it's not only the Supreme Court justices. President Obama's power grabbing, not to mention the

What Makes a Great Virtual Meeting?

BY TIM KRIDEL

Think about some of the most productive meetings you've ever had. What was key? The ease of understanding one another by meeting in person? The ability to share ideas or whiteboard brainstorming sessions?

Those capabilities don't have to disappear with videoconferences and other virtual meetings—*if* you choose the right platform. Successful web meetings should have all of the elements that allow you to feel productive, build team relationships and move your business ahead. You just need to know what features will actually enable this type of meeting—and then find a service that offers them.

For starters, look for full (1080p) HD video, which is the only way to capture all of the facial expressions and other details you'd see in an in-person meeting. "If the setting and the environment aren't intimate—meaning that I don't get a sense of their body language and that we're not actually meeting almost face-to-face—it's not a very effective or efficient meeting," says Gary Sibley, Brother Vice President of Sales and Marketing.

Arthritis Research Canada, a customer of Brother's OmniJoin web-conferencing solution, agrees that body language is key. "As an education platform, having clear eye contact and the ability to read body language is really important. OmniJoin allows us to have that close interaction with patients remotely," notes Pam Rogers, ARC Research Coordinator.

The network you are utilizing while conducting a web meeting plays a big part in your video experience. Your web meeting solution should take this into account and optimize the video faces to ensure each attendee is receiving optimal video. This may mean some videos do not appear at 1080p, but it also means one video won't degrade the quality for everyone else.

Locking the Virtual Door

Security is another top consideration when planning your online meeting strategy. Do you need a service that "locks the door" to your online meeting room? Are you sharing sensitive or proprietary data in your meetings?

"Maybe you're in finance, and because of government compliance requirements, you don't want your employees to be able to record meetings," Sibley says. "We'll allow you to turn that off at the administrator level so you have the confidence that your employees are not going to put your organization at risk.

"OmniJoin is encrypted end-to-end," Sibley adds. "We can password-protect at multiple layers. We have the ability not just to lock meetings, but also kick people out." Those capabilities also help ensure compliance with industry-specific laws and best practices, such as HIPAA, SCORM and FIPS 140-2.

Sharing Anything and Everything

Another common difficulty is not being able to collaborate in all of the ways that participants want, such as chat, sharing desktops and whiteboards, annotating documents and playing media files at the same time. That sounds obvious, but many organizations get tripped up by choosing a collaboration solution that supports, for example, only some media file formats, or only single-screen sharing.

Those limitations undermine the solution's effectiveness and ROI. When collaboration features are limited, meeting time is wasted if participants find that the solution doesn't support the format of the video they want to play, or that they can't annotate over live applications.

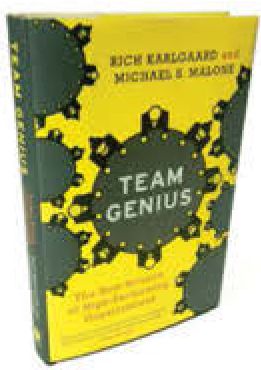
A good, productive meeting can have a tremendous positive impact on business; a virtual meeting should enable you to interact with your colleagues or partners in exactly the same way as a face-to-face meeting—you just need the right web conferencing system to support you. ■

jaw-dropping powers assumed by regulatory agencies, such as the FCC's claw-hold on the Internet, would have left FDR drooling with envy. Due process with these governmental bodies is too often a game of charades. More and more, rules and regulations are written vaguely or ambiguously, leaving the decision of whether you're in violation to bureaucratic—and political—discretion. We all know about the extraordinary—and as yet unpunished—abuses of the IRS in suppressing conservative groups.

Candidates running in the 2016 election must be pressured into stating what they would do to begin to get back what we've lost.

Teaming for Success

How can businesses achieve great—and sustainable—growth in a world where the rapidity of change continually intensifies? How do successful startups avoid becoming the equivalent of shooting stars? How do large companies not fall into the trap of comforting mediocrity, which, these days, can quickly lead to stagnation and death?



According to the persuasive and crucial new book *Team Genius: The New Science of High-Performing Organizations* (Harper Business, $27.99) by FORBES Publisher Rich Karlgaard and renowned high-tech observer and writer Michael S. Malone, the answer is for organizations to know how to create internal teams that can solve particular problems or, more important, create new products and services or radically improve existing ones.

The research on teams—how to create them, lead them and then wind them down—has exploded in recent years. But, as this book states, too often media stories about business successes "focus on two antipodes ... the lone hero and the giant enterprise," largely ignoring the role of teams. Yet it's those organizations in which productive teams proliferate that achieve the nirvana of "structural sustainability." Apple under Steve Jobs—who learned some painful lessons on how to achieve and sustain a creative and team-friendly environment—is a prime example of an organization that became a byword for dazzling new products.

So how does a business do it? *Team Genius* compellingly combs what has been learned on this critical yet heretofore overlooked subject. It illustrates its points with numerous stories from the world of business, sports, entertainment and the military.

Teams have been with us since man came into existence, from husband-and-wife teams to hunting teams to military platoons to sports teams. Although enormous organizations have been around for thousands of years, "none succeeded without a method of organization that ultimately rested on comparatively small groups of members organized as teams." Nonetheless, "although teams are more ubiquitous than ever in our lives, we seem to notice them less."

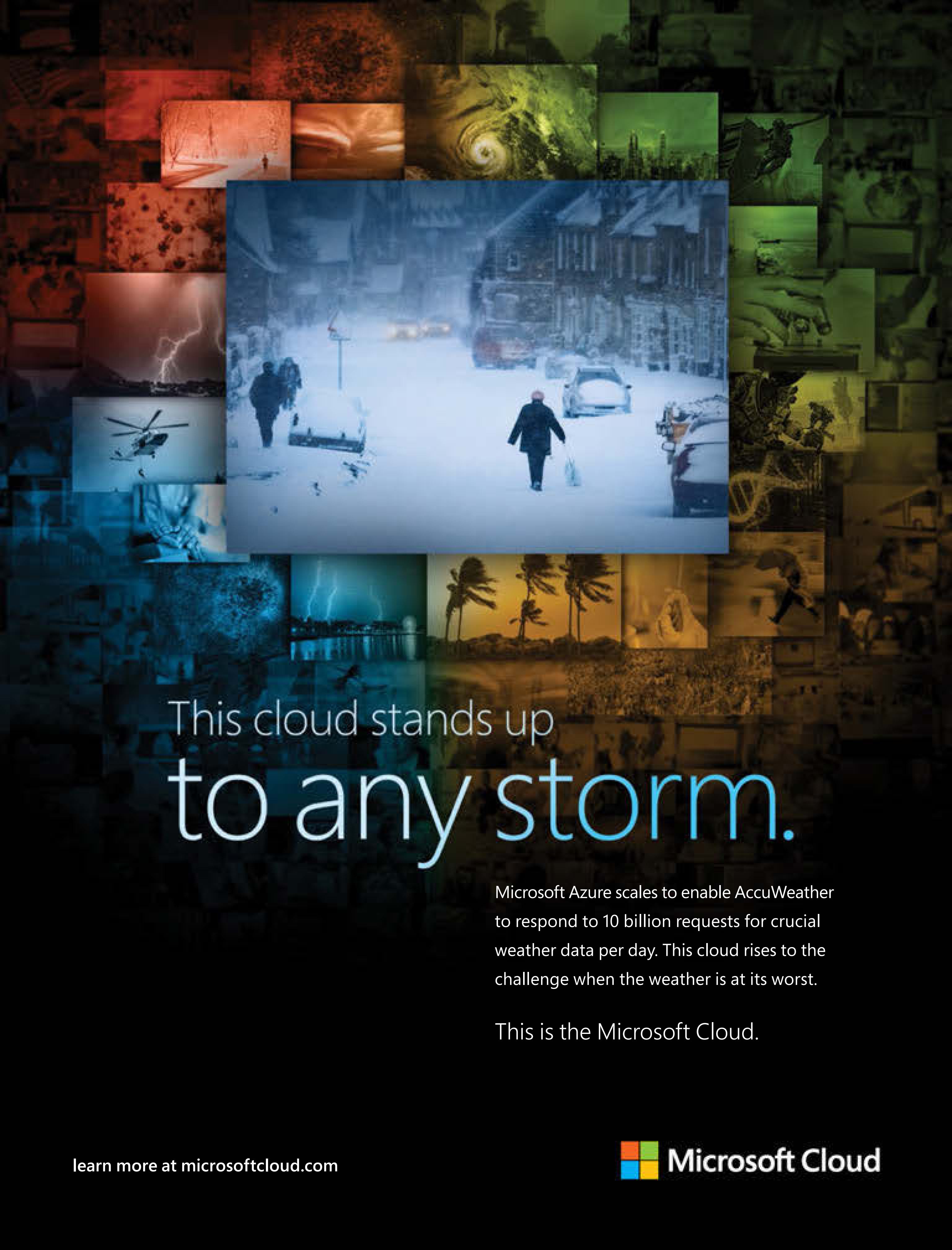
We've been wired to work in teams, and, as this book explains, thousands of years have demonstrated that small is usually better—optimally, teams made up of seven to nine members. But team success is rarely spontaneous. *Team Genius* thoroughly examines all facets of teams, what the authors might dub the "science of teams": size, the need for strong leadership, constant communication and the right mix of people.

It's in the discussion of team members that this book provides intriguing findings. We all know the priority placed on diversity these days. Indeed, teams are ill-served if members come from similar schools and similar work experiences. "Real diversity" is found in people who can "bring to bear varied ideas, knowledge and skills to accomplish tasks." And teams are not about members being in their comfort zones. Of course, strong leadership is fundamental to a successful team. The leader cannot sit back and let the group "find itself."

This book fascinatingly examines the complexity of team size. Take the most basic: teams of two. Often pairs accomplish great things. Think Apple, Microsoft and Google. But pairs are often volatile, ready to explode. Pairs may even hate each other. The Everly Brothers, a notable pair of singers, famously and spectacularly split apart (a decade later they reconciled). Henry Ford forced out partner James Couzens (to Ford's detriment). One of the book's absorbing stories is about the pairing of utter opposites at Starbucks: Howard Schultz and Howard Behar. After a period of rapid expansion, Starbucks stalled. Customer service had become erratic. Schultz, a no-nonsense, hard-charging CEO, promoted Behar to deal with the "soft" side of the business, such as customer service. Behar, who would eventually become president of Starbucks North America and Starbucks International, was critical to the creation of the unique Starbucks culture we know today.

Team Genius helpfully walks the reader through team life spans, from birth to maturity to breakup. Indeed, sometimes it's wise to break up a team that has successfully completed its task. For one thing, recruiters will be after certain team members, and teammates will be expecting promotions. Thus, wise management may be able to take strong members and put them in charge of new teams.

Team Genius, a splendid example of team achievement, lays out what you need to know about a subject that's becoming more important than ever to an organization's success.


This cloud stands up
to any storm.
Microsoft Azure scales to enable AccuWeather to respond to 10 billion requests for crucial weather data per day. This cloud rises to the challenge when the weather is at its worst.
This is the Microsoft Cloud.
learn more at microsoftcloud.com
Microsoft Cloud

LeaderBoard

July 20, 2015

Forbes 30 Under 30 member Sophie Milam, 27, is back on Earth after spending 240 days on a simulated mission to Mars in an isolation dome on the side of a Hawaiian volcano. The mechanical engineer and her five crewmates endured 20-minute communication delays with the outside world and just 6 minutes of shower time ... a week. Her take: "You can only live on Mars for so long."

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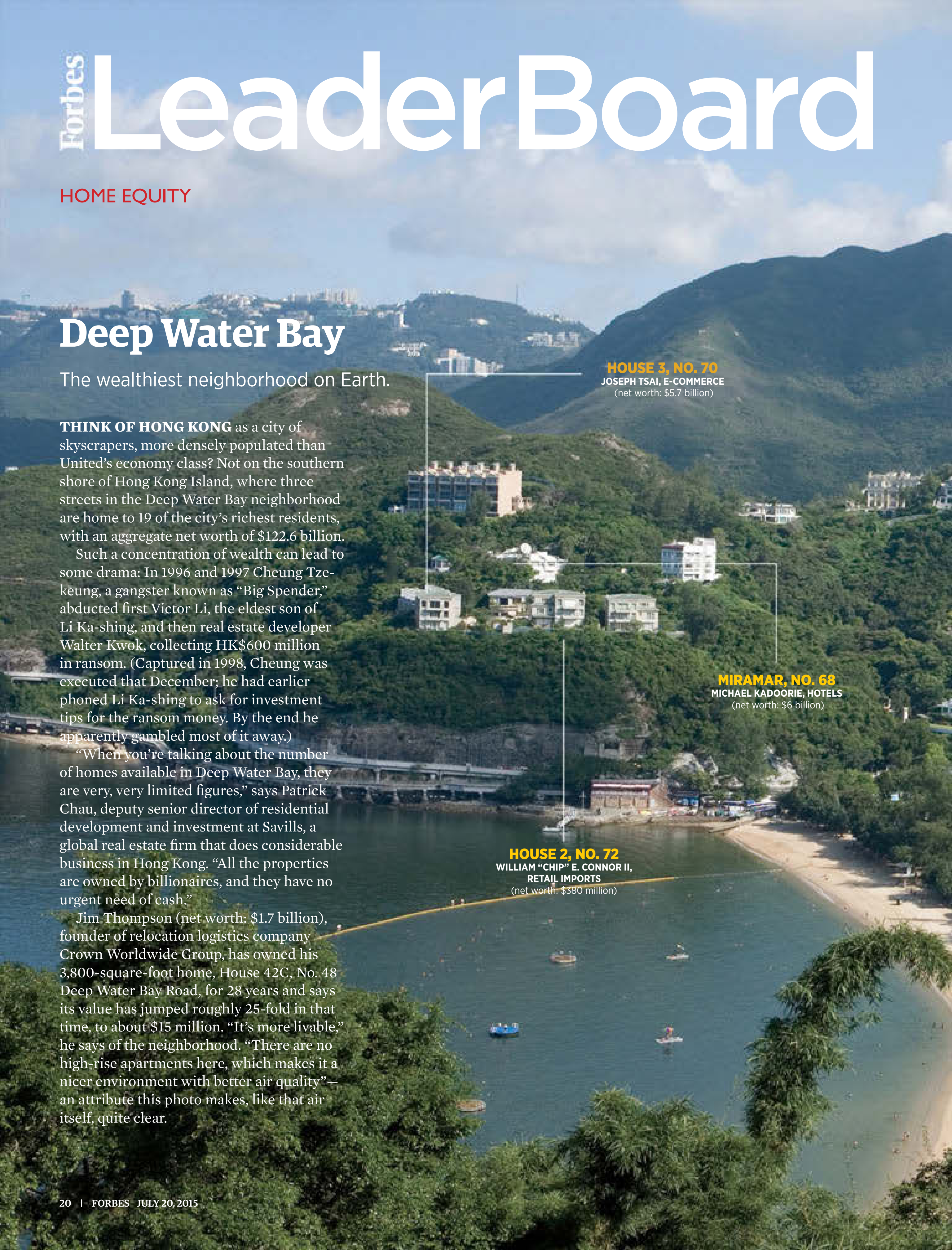
Forbes LeaderBoard

HOME EQUITY

Deep Water Bay

The wealthiest neighborhood on Earth.



THINK OF HONG KONG as a city of skyscrapers, more densely populated than United's economy class? Not on the southern shore of Hong Kong Island, where three streets in the Deep Water Bay neighborhood are home to 19 of the city's richest residents, with an aggregate net worth of $122.6 billion.

Such a concentration of wealth can lead to some drama: In 1996 and 1997 Cheung Tze-keung, a gangster known as "Big Spender," abducted first Victor Li, the eldest son of Li Ka-shing, and then real estate developer Walter Kwok, collecting HK$600 million in ransom. (Captured in 1998, Cheung was executed that December; he had earlier phoned Li Ka-shing to ask for investment tips for the ransom money. By the end he apparently gambled most of it away.)

"When you're talking about the number of homes available in Deep Water Bay, they are very, very limited figures," says Patrick Chau, deputy senior director of residential development and investment at Savills, a global real estate firm that does considerable business in Hong Kong. "All the properties are owned by billionaires, and they have no urgent need of cash."

Jim Thompson (net worth: $1.7 billion), founder of relocation logistics company Crown Worldwide Group, has owned his 3,800-square-foot home, House 42C, No. 48 Deep Water Bay Road, for 28 years and says its value has jumped roughly 25-fold in that time, to about $15 million. "It's more livable," he says of the neighborhood. "There are no high-rise apartments here, which makes it a nicer environment with better air quality"—an attribute this photo makes, like that air itself, quite clear.

PICTURED:
Homes on Deep Water Bay Road

OTHER DEEP WATER BAY ROAD RESIDENTS:

NO. 3, JOSEPH LAU, REAL ESTATE
(net worth: $11.9 billion; paid $114 million for his house in 2011)

HOUSE 42C, NO. 48, JIM THOMPSON, RELOCATION LOGISTICS
(net worth: $1.7 billion)

FOUR OF HONG KONG'S WEALTHIEST LIVE ON REPULSE BAY ROAD:

NO. 1, STANLEY HO, CASINOS
(net worth: $860 million)

NO. 4, ANGELA LEONG, STANLEY HO'S FOURTH WIFE
(net worth: $1.5 billion)

NO. 12, CHENG YU-TUNG, CONGLOMERATE
(net worth: $13.9 billion)

NO. 36, VINCENT LO, REAL ESTATE
(net worth: $2 billion)

ANOTHER FOUR LIVE ON BLACK'S LINK:

NO. 5, INA CHAN, STANLEY HO'S THIRD WIFE
(net worth: $440 million)

NO. 7, KENNETH LO, TEXTILES
(net worth: $1.4 billion)

NO. 35, LAWRENCE HO, STANLEY HO'S SON
(net worth: $1.4 billion)

BLACK'S LINK VILLA, NO. 60, LUI CHE WOO, CASINOS
(net worth: $10.8 billion)

BY ROBERT OLSEN

LeaderBoard

KEVIN PLANK

+170 MILLION

NET WORTH: $3.5 BILLION

Under Armour CEO watches as his top hoops ambassador, Stephen Curry, wins an NBA title, then sees golf endorsee Jordan Spieth win U.S. Open five days later.

RICHEST BY STATE

Alaska

POPULATION:
736,732

GROSS STATE PRODUCT:
$48.7 BILLION
(–1.3% GROWTH YEAR-ON-YEAR)

GSP PER CAPITA:
$66,160
(RANKS NUMBER ONE NATIONWIDE)

RICHEST:
ROBERT GILLAM
$320 MILLION

EVEN EXCLUSIVE clubs need someone to bring up the rear, and in the Richest by State ranks that's Robert Gillam, an Alaskan money manager whose $320 million net worth is the lowest of the group.

Still, he's doing okay. In 1990 he founded McKinley Capital Management, an Anchorage-based institutional investor that now oversees more than $7 billion. He studied at Wharton and then got his M.B.A. in finance from UCLA in 1969, starting his career at brokerage firm Foster & Marshall in Seattle before cashing out when the company was acquired by American Express in 1982.

He moved on to a Denver-based broker, Boettcher & Co., which was sold to Kemper in 1985. Gillam—an outdoorsman and environmentalist—then moved to the Last Frontier, making his mark at McKinley, specializing in quant models and strategies.

At age 69 Gillam remains McKinley's president and CEO. He owns a lodge on Lake Clark, southwest of Anchorage, and is a prominent opponent of the state's proposed Pebble Mine, a copper and gold excavation project not far from his country retreat.

NEW BILLIONAIRES

The New King of Miami

Developer Jeffrey Soffer rides Florida's real estate recovery to ten-figure heights.

HOUSEHOLD NAME? Maybe not, but in Miami Jeffrey Soffer is a local celebrity who hobnobs with the global variety. Married to former *Sports Illustrated* swimsuit model Elle Macpherson *(below)*, Soffer, 47, has hosted Kate Hudson on his yacht and is friendly with Gwyneth Paltrow.

Meanwhile, thanks to his hefty stake in Turnberry Associates, the real estate development company founded by his father, Donald, Soffer—who's co-CEO with his sister, Jackie—debuts as a billionaire.

In the late '60s Donald bought 785 acres of swamp and marshland in northeastern Miami-Dade County, on which he built a mall, office buildings and condo towers in what's now the town of Aventura. The high-end mall—housing Emilio Pucci, Cartier, Fendi and the like—is today one of the highest-grossing shopping centers in America, with sales of $1,642 per square foot. (The national average is $474; sales per square foot for malls in Miami have risen 36% since 2008, according to the International Council of Shopping Centers.)

The family also owns the legendary celeb-hub Fontainebleau Miami Beach, an immense hotel with a trendy nightclub and two Michael Mina restaurants. Soffer owns 72% of the hotel and half of Aventura Mall, plus stakes in the family's other hotel, office and residential properties in Florida; FORBES estimates his net worth at $1.2 billion. (Jackie's smaller Fontainebleau holding brings her net worth to about $800 million.)

Turnberry's biggest current project, in partnership with New Jersey's LeFrak developers, is turning a 183-acre former city dump in North Miami into a community with 4,390 condos, shopping, a movie theater with table service, and more. Also in the offing: the Turnberry Ocean Club condos in Sunny Isles Beach just east of Aventura—not yet built but already marketing two 54th-floor penthouses for $35 million each.

CHRIS LYONS (LEFT); JOHN PARRA/GETTY IMAGES FOR PRITZKER ARCHITECTURE PRIZE (RIGHT); KATIE KRAMER/GETTY IMAGES (TOP)
ALL FIGURES AT THE TOP OF THIS AND SUBSEQUENT PAGES REPRESENT CHANGES IN WEALTH BETWEEN JUNE 9 AND JUNE 23.
SOURCES: INTERACTIVE DATA VIA FACTSET RESEARCH SYSTEMS; FORBES.
RICHEST BY STATE BY CHASE PETERSON-WITHORN; NEW BILLIONAIRE BY ERIN CARLYLE


YOU MAY BE OUTNUMBERED,
BUT NEVER OUTSMARTED.

LeaderBoard

SEAN PARKER

–$600 MILLION

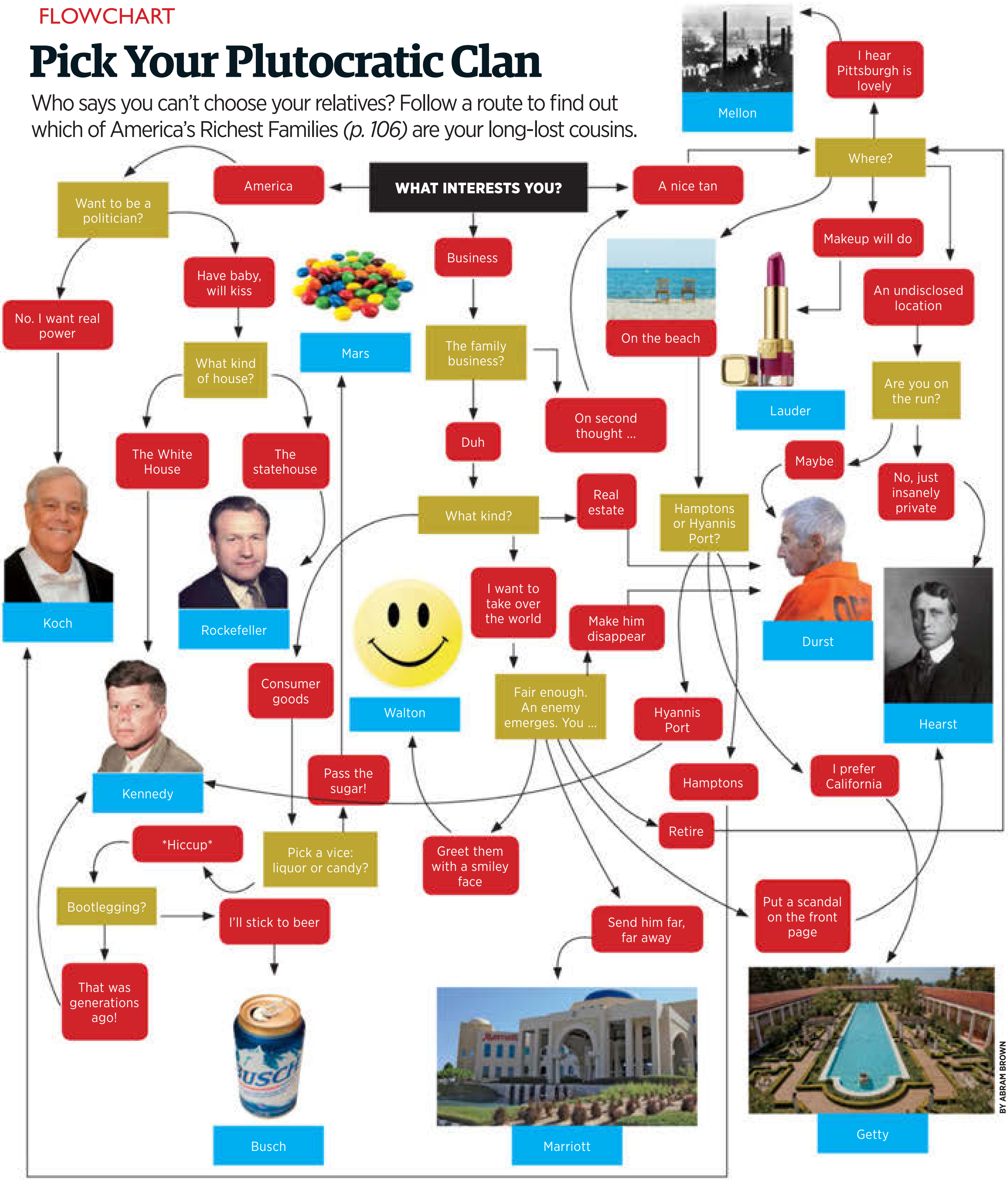
NET WORTH: $2.8 BILLION

Napster cofounder and ex-Facebook president pledges $600 million to fund big-risk, big-reward attempts to cure diseases such as cancer and malaria.

FLOWCHART

Pick Your Plutocratic Clan

Who says you can't choose your relatives? Follow a route to find out which of America's Richest Families *(p. 106)* are your long-lost cousins.



BY ABRAM BROWN

PHOTO12/UIG VIA GETTY IMAGES; RABBANI AND SOLIMENE PHOTOGRAPHY/GETTY IMAGES; BETTMANN/CORBIS; INGRAM PUBLISHING/NEWSCOM; BILL BACHMANN/NEWSCOM; AP PHOTO/GERALD HERBERT; ULLSTEIN BILD/ULLSTEIN BILD VIA GETTY IMAGES; RICHARD T. NOWITZ/CORBIS; SIMON DAWSON/BLOOMBERG (TOP)

LeaderBoard

EDWARD LAMPERT

–$180 MILLION

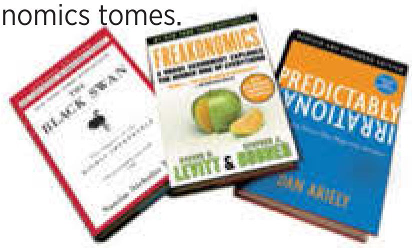
NET WORTH: $2.7 BILLION

Sears CEO says a real estate spinoff will raise $2.6 billion—not enough to resurrect a company that has lost $7.1 billion in the last four years.

BUSINESS LIBRARY

The New Classics

The *Freakonomics* guys are back with a new book (*When to Rob a Bank*). Here are some of the past decade's most influential economics tomes.



The Black Swan

by Nassim Nicholas Taleb
Random House, 2007
Taleb published *Swan*—warning of the potentially catastrophic effects of unforeseen events—in April 2007. Seventeen months later came the panic of '08. Good timing.

Capital in the Twenty-First Century

by Thomas Piketty *Belknap Press, 2014*
Sure, Piketty is a French socialist whose numbers might be *un peu* fuzzy, but no econ text in decades made such an impact.

Freakonomics

by Steven D. Levitt and Stephen J. Dubner *William Morrow, 2005*
Out-Gladwelling Malcolm Gladwell, this pop-econ sensation examined abortion, the corporate structure of drug gangs and more through an economic lens.

Lords of Finance: The Bankers Who Broke the World

by Liaquat Ahamed *Penguin Books, 2009*
What we've learned (and haven't) from the Great Depression—and how U.S. banks and slow-growth Europe pose a repeat threat.

Predictably Irrational

by Dan Ariely *HarperCollins, 2008*
In this behavioral-econ treatise, Ariely argues that humans' irrationality is among the most important aspects of economics.

The Travels of a T-Shirt in the Global Economy

by Pietra Rivoli *Wiley, 2009*
Tracking the counterintuitive journey of a single $5.99 T-shirt as a metaphor for doing business in our connected world.

SPORTSMONEY

Highest-Paid Caddies

For pro golf's top bagmen, big paydays are a chip shot.

THE VAST MAJORITY of professional caddies' life savings amount to little more than a couple of spare quarters that double as ball markers. But at the very top of the PGA Tour a few are pocketing decent green for a job that's a cross between psychologist and pack mule.

Take Michael Greller, who earned an estimated $180,000 for four days of caddying for 21-year-old U.S. Open champ Jordan Spieth at Chambers Bay in University Place, Wash. in mid-June. That's based on a typical commission structure of 10% of the purse if a caddy's player wins the tournament and 8% for a top ten finish. Details vary widely—there are no contracts between PGA Tour caddies and players, just verbal agreements—but for a finish outside the top ten, the man on the bag of a rank-and-file player probably gets about 5%; if his player misses the cut, the caddy makes nothing more than $2,000, which is quickly swallowed by travel expenses.

Still, FORBES estimates that ten pro caddies pocketed north of $600,000 last year, led by Micah Fugitt, who's on the bag for FedEx Cup champ Billy Horschel. For 2015 Greller, like his boss, looks hard to beat: Spieth has won three tournaments this season, including the Masters and the U.S. Open, and has finished in the top ten at seven more, for total on-course winnings of $7.9 million.

GOLF'S TEN HIGHEST-PAID CADDIES IN 2014

1. Micah Fugitt
(caddies for Billy Horschel): $1.6 million

2. J.P. Fitzgerald
(Rory McIlroy): $1.5 million

3. Ted Scott
(Bubba Watson): $900,000

4. Gareth Lord
(Henrik Stenson): $725,000

5. Mark Fulcher
(Justin Rose): $720,000

6. Mike "Fluff" Cowan
(Jim Furyk): $700,000

7. Neil Wallace
(Sergio Garcia): $695,000

8. Andy Sanders
(Jimmy Walker): $680,000

9. Lance Bennett
(Matt Kuchar): $650,000

10. Craig Connelly
(Martin Kaymer): $625,000

Michael Greller (right), caddying for Jordan Spieth.

CADDIES BY KURT BADENHAUSEN
MIKE EHRMANN/GETTY IMAGES; AMANDA GORDON/BLOOMBERG (TOP)

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NET WORTH: $39 BILLION

Facebook now worth more than Wal-Mart. Shares hit high after analysts value virtual reality platform Oculus VR at $5 billion, 150% more than Zuck paid for it a year ago.

FAREWELL TOAST

Kirk Kerkorian (1917–2015)

KIRK KERKORIAN, who built a $4 billion fortune in Las Vegas and Los Angeles, died June 15, nine days after his 98th birthday. An eighth-grade dropout, he trained fighter pilots during World War II, built a charter flight company, founded MGM Resorts International and made and lost billions as the consummate dealmaker in movies, hospitality and the auto industry. Fellow billionaire and man-about-Vegas ***Phil Ruffin*** *remembers his long-time friend and occasional sparring partner.*

Kirk did deals the old-school way. Back in 2008 I was buying the Treasure Island casino, which used to be owned by MGM. I met with Jim Murren, the company's chairman and CEO, in the Bellagio and offered him $700 million cash. He called Kerkorian, who was still the biggest shareholder—and clearly the boss. He told Jim he wanted $150 million more. I said no thanks and walked out.

Kirk being Kirk, he got on a plane to talk it over face-to-face at the Bellagio. I said, "Kirk, I think we're just too far apart." I was at $700 million, he at $850. "Why don't we split the difference?" I said. "I'll give you $750."

"Do the math," he countered. "That's not half. We're splitting it $775." He might have been 92, but he was sharp as ever. On his way out he turned to me. "Don't let the lawyers screw this up." They didn't: We did the deal for $775 million on the dot.

Kirk paved the way for guys like me. He was a giant in Vegas, but his interests spanned the globe. He tried to buy Chrysler once—and was probably lucky that he didn't end up doing so. A big tennis guy, he was always inviting people to Los Angeles to play. Flying, too, was a hobby for both of us. We probably owned too many planes, but we loved chatting about them.

He wasn't known for his philanthropy, but mostly because he chose not to be. Bob Dole once told me a story: He called Kirk to see if he'd be willing to donate to the University of Kansas, the senator's alma mater. Kirk wasn't an alum, just a friend of Bob's. In two days Bob had a check for a half-million dollars.

I never looked at Kirk's finances, but I understand he gave away billions without talking about it much. When Kirk Kerkorian said something, you could put it in the bank.

30 UNDER 30

Space Cadets

Far-out innovation from the Forbes 30 Under 30, in 30 words or less.

Sophie Milam

HI-SEAS | 27

Milam recently spent eight months on a simulated mission to Mars, isolated in a dome with five teammates. Total personal space for each? Fifty-five square feet.

Natalie Panek

MDA, ROBOTICS AND AUTOMATION DIVISION | 30

An aerospace engineer by training, Panek is designing the locomotion system for the European Space Agency's Mars rover, expected to launch in 2018.

Aaron Kemmer, Jason Dunn, Mike Chen, Michael Snyder

MADE IN SPACE | 30, 30, 30, 29

Launched from entrepreneur-focused Singularity University, Made In Space created the first 3-D printer functional in zero gravity. It's used on the International Space Station for objects such as tools.

FAREWELL TOAST BY PHIL RUFFIN, AS TOLD TO DAN ALEXANDER; 30 UNDER 30 BY KATHRYN DILL

ILLUSTRATIONS BY PATRICK WELSH; DAVID BURNETT/CONTACT PRESS IMAGES (TOP LEFT)

LeaderBoard

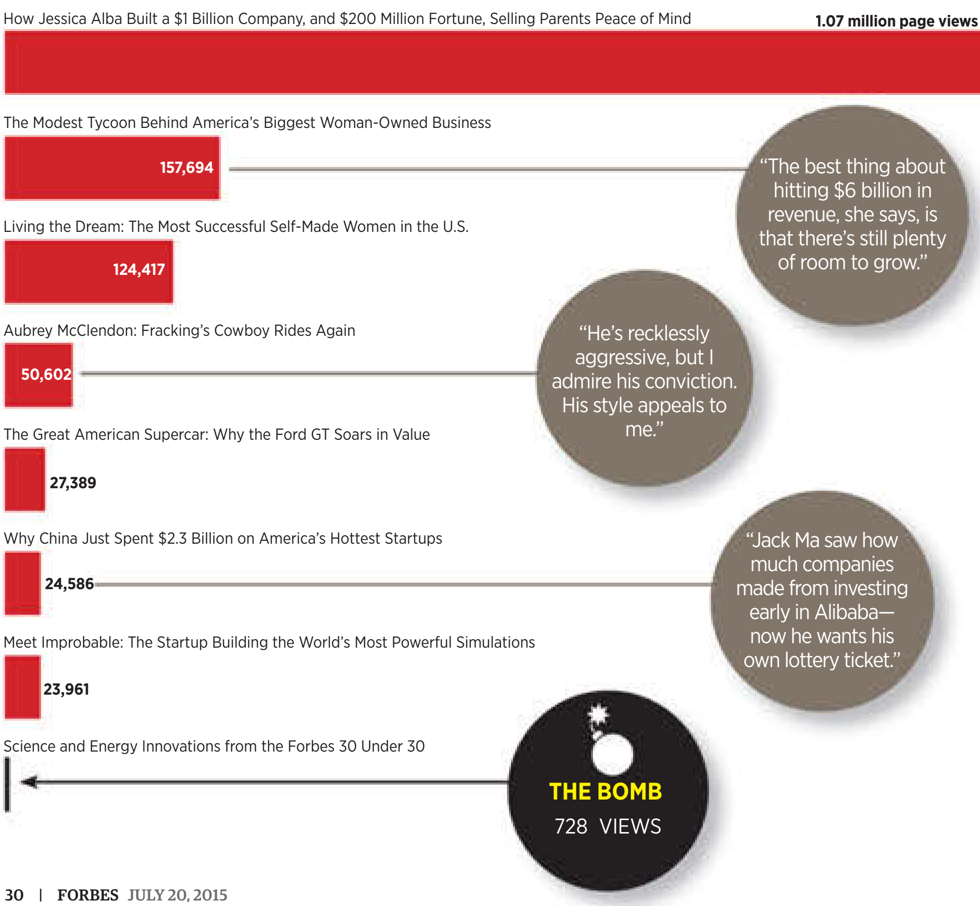
TAYLOR SWIFT
+POWER PLAY
NET WORTH: $200 MILLION
Pop star blasts Apple for saying it wouldn't pay royalties during trial period of its new streaming service. Within hours Apple capitulates.

CONVERSATION

OF EVERYONE profiled in our June 15 Power Women issue—top achievers in business, finance, politics and more—actress Jessica Alba, who's also head of the $1 billion Honest Company, drew by far the most reader chatter. Big praise came from @FractalEcho on Twitter: "Probably the most impressive trajectory for a high-profile actor/entrepreneur since Paul Newman." @JLongleyCopy looked forward to a day when successful women don't "need to be a separate feature." It wasn't all hosannas, though: In the *New York Post* Julie Gunlock of the Independent Women's Forum claimed Honest Company's "main commodity is fear," preying on people's anxiety about chemical additives. "We can salute [Alba] for her marketplace success," Gunlock wrote, "but we shouldn't let her get away with pretending that she's saving the world."

THE INTEREST GRAPH

Jessica Alba is not just a force in Hollywood and business—in terms of reader clicks, she ran laps around the rest of our June 15 issue.



VENTURE ADVENTURE

The team from TrueBridge Capital, a VC firm in North Carolina's Research Triangle, shared wisdom about the tumultuous world of early-stage investing.

@VIJAYRAMNATH What skills do MBAs need to become a VC?

@FORBES The industry is moving more toward operating experience as a requisite. Operating experience in a tech company is more valued today than it has been historically. Deep domain expertise and a strong network in the tech community are hugely valuable.

@KING_LEANDER Is it impossible for a single founder w/ a beta app/site to just get a short meeting? Or does a company have to have multiple founders and a working business with revenue and traction?

@FORBES It is absolutely possible. Deal flow is the lifeblood of any venture firm. It depends on your network and your pitch, too.

@ALEXJACOBS1994 Where do you see #edtech evolving in the near future?

@FORBES This is a massive, slow-moving, old industry that has not embraced technology and is ripe for disruption. We're seeing the early stages of that disruption in companies like Udemy, Coursera, AltSchool, etc.

BY MICHELA TINDERA
MARTIN BUREAU / AFP / GETTY IMAGES

TEAM GENIUSES—JERKS OR ANGELS?

"BUSINESS WAS ORIGINATED to produce happiness, not pile up millions." So wrote FORBES founder B.C. Forbes—Steve's grandfather—in the magazine's premiere issue, almost 98 years ago. B.C. was a walking encyclopedia of business wisdom. His adages had a moral quality to them. "The man who has won millions at the cost of his conscience is a failure." "The bargain that yields mutual satisfaction is the only one that is apt to be repeated." And not to be forgotten: "Jealousy ... is a mental cancer."

B.C. believed good people would win in the end—most of the time. And if they didn't win after giving it their all, the noble strivers had nothing to be ashamed of.

Do B.C.'s homilies still hold true? Should entrepreneurs, owners and managers endeavor to be good people?

There's reason to doubt. The supersuccess of two recent business titans makes you wonder. The two are Steve Jobs and Elon Musk—bright, shrewd and occasionally nasty leaders. There's much to study and emulate in this pair, most of it good. But Jobs was a hard man, and so is Musk. Both have documented histories of vicious verbal humiliation of others. According to this summer's bestseller by Ashlee Vance, *Elon Musk: Tesla, SpaceX, and the Quest for a Fantastic Future* (HarperCollins), when Musk's executive assistant of more than a decade asked for a raise, he told her to take two weeks off and he'd gauge whether her job was worth the requested compensation. When she returned two weeks later, he fired her. It's no surprise, then, that Musk is also described as a Scrooge regarding employee praise.

A nasty trend I see today is that many entrepreneurs think nasty behavior is not only excusable in business but also required for success. Jobs and Musk prove it—don't they?

Actually, no. Steve Jobs' gratuitously jerky behavior got him in more trouble than good behavior would have. A bad habit of Jobs' from his early tenure at Apple was to steal credit for the successful projects—most people, even today, think Jobs started the Macintosh project—and to blame others for the losers. This flaw didn't escape Apple's board: It voted unanimously to side with CEO John Sculley when the showdown between the two came. The Steve Jobs who came back in 1997 to save Apple and lead its renaissance no longer sabotaged his own teams. He built enduringly great teams, in part by spreading credit.

Still, even the mature Jobs often got away with behavior that would sink other CEOs. He supported a stock options backdating scheme that was plainly illegal and landed another Silicon Valley CEO in jail.

The jerk gene seems to be spreading. Travis Kalanick, founder and CEO of Uber, has joked about his misogynistic nickname for his company. A direct report of Kalanick's had to apologize to Sarah Lacy, a critical female reporter, for spoken threats made against her. And Uber stands accused of flooding its competitor Lyft with fake service calls. "It's douche as a tactic," one investor told tech writer Kara Swisher.

Are the dirtbags winning? Uber's market cap of $40 billion sounds a lot like winning. Lyft's market value is one-sixteenth the size.

PRODUCE HAPPINESS

But here's the thing: If you decide you want to behave this way, make sure you're the company founder, you're the smartest person in the room, you outwork everyone and that people love your products. This is why Elon Musk can act like a jerk and get away with it. He usually is the smartest person in the room, he works like a demon and people love his products.

The number of individuals who check all those boxes is minuscule. Thomas Edison. Henry Ford. Steve Jobs. Elon Musk. Jeff Bezos. Travis Kalanick. They get to be jerks more than others do. Is that fair? Who's to say? I'm glad—and you should be, too—that they ply their intense passions within a market-based system. Imagine their talents, drive and low empathy put to use in a dictatorship or cult.

For the vast majority of us I would say: Don't go there. Being a jerk isn't worth it. It will damage your heart and soul. It will hurt, not help, your teams. It will lead more often to poverty than to riches. Instead, follow B.C. Forbes' advice: Produce happiness.

Tiny Teams Are Best

The world's finest work is done by committed teams of 2 to 12 people. Learn why this is so in my and coauthor Michael S. Malone's new book, *Team Genius: The New Science of High-Performing Organizations* (HarperBusiness, $27.99).

RICH KARLGAARD IS THE PUBLISHER AT FORBES. HIS NEW BOOK, *TEAM GENIUS: THE NEW SCIENCE OF HIGH-PERFORMING ORGANIZATIONS*, COMES OUT THIS MONTH. FOR HIS PAST COLUMNS AND BLOGS VISIT OUR WEBSITE AT WWW.FORBES.COM/KARLGAARD.

THOMAS KUHLENBECK FOR FORBES

ARE YOU SHIPPING LIGHT BUT PAYING HEAVY?

Recently some major shipping companies have changed the way they calculate the cost of domestic ground shipments. For some packages, the size of the box and not just the weight is a factor in pricing — so even lightweight items like pillows could cost you more to ship.

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DWQ-COMP-A-FORB

NEW COURSE FOR THE FEDERAL RESERVE

ONE OF THE KEY economic challenges for the next U.S. President will be to set a new course for the Federal Reserve. That's a vital step in breaking out of the 2.2% "new normal" and achieving the 4% GDP growth needed to bring more workers into the labor force and lift middle-class incomes. The Fed should be independent, but it can't remain the 800-pound gorilla in the economy and financial markets that it's become.

By setting interest rates near zero and holding bond yields down, the Fed has been picking winners and losers, tilting the playing field toward big borrowers and against savers. The vast majority of new credit has been going to government and big corporate bond issuers (which qualify for superlow rates) at the expense of households and small businesses (which often don't qualify).

While the Fed calls its policies accommodative, in practice they're tight for most of the economy. The biggest borrowers get more credit than they need at cheaper interest rates than they require, while smaller, more productive (though riskier) borrowers are left out.

Labor productivity fell in the first quarter and had one of the weakest growth rates in decades last year. A key reason: Small businesses received much less credit in this recovery than in previous ones. Newly formed businesses, normally an engine of job creation for younger workers, provided less than 0.8% of all hires in 2014, the lowest share on record.

The Fed took powerful emergency action in 2008 to treat the financial crisis, cutting rates to zero and launching more than $1 trillion in mortgage bond purchases. Maybe that particular medicine was necessary for the crisis, but it didn't work in the recovery and should have been wound down. Instead, the Fed kept controlling the price of credit, setting interest rates at zero and buying trillions of dollars more in bonds. The Fed now holds a mountain of very long-term bonds financed largely with short-term bank debt, with no increase in its equity capital. If the Fed were regulated as a bank, the gigantic mismatch in its maturities would force a shutdown.

GETTING BACK ON COURSE

The Fed has resisted changing course, but there are several constructive steps it could take now—or at the urging of a new Administration. The Fed could easily allow the maturity of its bond portfolio to shorten as it reinvests principal. And it should allow rates to rise above zero. Its latest guidance, one and done, is much better than zero forever. Taking these first two steps would go a long way toward letting the economy heal and grow.

To succeed in its dual mandate of price stability and maximum employment, the Fed must offer consistent rules for which it takes responsibility. Its current view of its role appears to be to expand its regulatory structure, stay as large as possible for as long as possible and avoid causing any losses for the overheated bond market. This puts growth, employment and median income on a back burner.

In recent decades the Fed and the Treasury have allowed massive swings in the value of the dollar, undercutting growth and investment. To achieve price stability and maximum employment, the next Administration and its Treasury secretary should work with the Fed to seek a dollar that will be strong and stable over the decades.

Over time the Fed should get out of the bond business. The future Fed should hold most of its assets in Treasury bills and the equivalent, financed the old-fashioned way: primarily with currency, a small level of bank reserves and routine deposits from the Treasury Department. For now the Fed should diversify its liabilities away from expensive bank debt (excess reserves) and shift more of its borrowing to nonbanks through reverse repurchases to efficiently use the entire market rather than just banks.

Washington's regulatory control of the financial sector has grown rapidly and needs to be redesigned with more focus on efficiency, safety and the markets. The Fed should reduce its nonmonetary responsibilities, including placing the Consumer Financial Protection Bureau in an executive branch agency and participating in an interagency process aimed at downsizing the government's dominance of the mortgage market through Fannie Mae, Freddie Mac and the FHA.

As with other branches of government, the Fed can be smaller and still be effective, responsive to the challenges around it and setting a good example of strong leadership.

THOMAS KUHLENBECK FOR FORBES

DAVID MALPASS, GLOBAL ECONOMIST, PRESIDENT OF ENCIMA GLOBAL LLC; PAUL JOHNSON, EMINENT BRITISH HISTORIAN AND AUTHOR; AND AMITY SHLAES, PRESIDENTIAL SCHOLAR AT THE KINGS COLLEGE AND CHAIR OF THE COOLIDGE FOUNDATION BOARD, ROTATE IN WRITING THIS COLUMN.
TO SEE PAST CURRENT EVENTS COLUMNS, VISIT OUR WEBSITE AT WWW.FORBES.COM/CURRENTEVENTS.

DIGITIZING THE PHYSICAL WORLD: VIDEO FOR THE INTERNET OF THINGS

Vision is critical to understanding. Just as a person who has lost his sense of sight may lack a complete set of information about the world around him, the Internet of Things without video may lack vital data. Whether it is a computer handling still images or the human brain interpreting what is seen, both provide a critical understanding of our world.

When we think of the Internet of Things as it is now, we're thinking about a distributed network of connected sensors that gives us information about the world around us. These sensors are essentially digitizing the physical environment; however, they are limited in the information they can convey. "So far these [sensors] have been very simple, like temperature sensors or light sensors or pressure sensors and so on. [They can tell us things like] is it open or closed? Is this chemical process moving or not?" says Ramesh Raskar, a professor in MIT's Media Lab and leader of its Camera Culture group. "What changes with cameras is that cameras are extremely intelligent, extremely bandwidth-heavy. And they can understand the world in a very rich way."

Professor Raskar's research looks into, among other things, developing new types of cameras that can look around corners or read books without opening them. As he puts it, it's all about "making the invisible visible."

Similar principles apply to video in an IoT world, and especially where business intelligence is concerned. Think about the difference between a brick and mortar retail store and its e-commerce counterpart. On the website, all shopper behavior can be tracked and analyzed. So when someone navigates from smartphones to phone cases, adds them to their cart and then decides to click away without purchasing, that behavior is logged. Taken in aggregate, the knowledge gained from the abandoned cart behavior can be used to implement changes on the website, or even predict the changes that should be made, to subsequently drive up conversion rates.

Right now, the same ability doesn't exist in brick and mortar stores. But we believe it will – and when it does, it will largely utilize video surveillance technology retailers already own, as well as sophisticated video analytics to interpret the recordings into usable data. "What video analytics does is it takes the observed behavior captured as a series of pixels in video and actually makes it useful," says Dr Mahesh Saptharishi, chief technology officer and senior vice president at Avigilon, a company at the forefront of development for the kinds of sophisticated analytics that will make this technology a reality. "It converts [that information] into a language that is something we can act on, something we can use to improve the customer experience."

> **"Businesses should look at video as a platform that serves many applications. Security happens to be just one of these applications."**
>
> **Dr. Mahesh Saptharishi**
> Chief Technology Officer and Senior Vice President, Avigilon

Retail is not the only industry where video will enhance IoT-enabled technology. Think of RFID-tagged assets being located by video. Think of smart buildings with temperature controls that use video to sense sunlight changes to predict when a room is about to get warmer or cooler and adjust accordingly, not simply react when it's already happened.

"Video can see at a distance, but most other sensors cannot. Temperature sensors can only sense the temperature of what's around it; a pressure sensor can only sense pressure when you touch it," says Professor Raskar. "The benefit of video, very much like human vision, is that you can see things far away. And that changes everything."

While many of these advances are currently confined to the academic world, high quality video surveillance and analytics are already here. Combined, they lay the foundation for businesses to build capabilities in the future. Avigilon Corporation's video analytics solutions enable businesses to do just that, making their surveillance investments stretch beyond the security function to those that typically improve customer service, processes or decision-making. "Businesses should look at video as a platform that serves many applications. Security happens to be just one of these applications," says Saptharishi. "Any application where visual observation can produce information that makes key business decisions easier, faster and better will benefit from video as a platform."

Verticals July 20, 2015

"Human Grade" dog food may be the latest fad, but studies show that plain old Costco kibble has all the nutrients Fido needs; table scraps likely account for the 18% of hounds who are obese in America.
PAGE 46

HENK BADENHORST/GETTY IMAGES

STRATEGIES

TURNAROUNDS

Strip and Hold

Ligand CEO John Higgins was brought in by raider Dan Loeb to slash costs at a bloated biotech firm. Seven years later he's still there, running a lean, mean cash machine.

BY DANIEL FISHER

Demolition man: Ligand CEO John Higgins has built a new kind of drug company.

ROBERT GALLAGHER FOR FORBES

On his first day as chief executive of Ligand Pharmaceuticals in January 2007, John Higgins was shown into a conference room in the biotech firm's 135,000-square-foot San Diego headquarters. Inside was a table so mammoth, Higgins recalls, "you could practically land a corporate jet on it."

The new CEO immediately instructed the head of facilities to find a carpenter and cut it up into smaller tables. Higgins wasn't some scientist-turned-empire builder trying to make Ligand into the next Amgen or Genentech. He was a hit man, brought in amid a raid by activist Daniel Loeb of Third Point LLC to stem the losses at the once-promising biotech firm and turn whatever was left into quick cash.

Within a year the 365-employee company was down to 66, on its way to 18 employees, which is what Ligand has today. The huge San Diego headquarters is gone, along with an expensive sales force and all of Ligand's commercial products. Over the next two years Higgins oversaw a wave of sales that produced $518 million in cash.

Loeb pocketed his share of a $250 million special dividend in April 2007, sold most of his 7 million shares at a profit and by 2011 was out, having roughly doubled his $50 million investment. "Higgins deserves credit for transforming Ligand," Loeb says. But Higgins stayed on, reshaping the company into his vision of what a biotech company should be. "No matter how smart you are, no matter how much diligence you do, no matter how many Nobel Prize-winning scientists you put on your advisory staff, there's no certainty your decision making about a drug will be right," says Higgins, 45.

He's rebuilt the company along lines that would make a Texas wildcatter proud: spreading bets and relying on other people's money to find winners. Instead of bankrolling his own R&D, Higgins employs five senior scientists and uses low-cost contract labs in India and China to investigate promising new compounds. Meanwhile, Ligand has more than 120 projects in various stages of development at bigger pharmaceutical companies under contracts that will give Ligand a stream of license

revenue if they succeed. In all, Ligand's partners will spend $1.1 billion this year developing its drugs, Higgins says. He calls them shots on goal, and if the historical stats for biotechnology developments hold, he figures at least 20 of the drugs Ligand has licensed out will make it to market, boosting Ligand's $30 million in royalty revenue last year by hundreds of millions of dollars. GlaxoSmithKline brought Ligand's blood-platelet-restoring pill Promacta to market, for example, and the drug, since sold to Novartis, could become a big seller as an anemia treatment competing with Amgen's Epogen. At an average royalty of 5% to 10% and patent protection through 2027, Higgins says, Promacta could be "a very rich annuity" if sales grow past $1 billion a year as hoped.

Ligand also has Captisol, a sugar compound that allows chemically unstable pharmaceuticals to be administered. Higgins bought Captisol's Kansas inventor for $30 million in cash in 2011 and stripped it of most of its employees and costs. He has since negotiated some 60 licenses, including one with Amgen to use it in Kyprolis, a multiple myeloma treatment that analysts think could generate sales of $1 billion to $2 billion a year. Captisol royalties this year should hit $30 million, Higgins says, an amount equal to the original purchase price.

Higgins came to Ligand from Connetics Corp., a Genentech spinout he joined after stops at Dillon, Read & Co. and drugmaker BioCryst. He was CFO the day in 2000 when Connetics lost 80% of its market value after a late-stage trial for its scleroderma drug failed. An Omaha native who majored in economics and took the bare minimum of science courses in college, Higgins told his more scholarly colleagues to forget about doubling down on another expensive drug trial. "If it doesn't work, and it's our only thing," he told them, "there's not going to be much more to talk about."

Instead he cut costs, engineered a series of small deals and pulled Connetics back from the brink. Within four years Higgins was also running corporate development, and the stock had soared from $4 to $27. He'd also secured a fan in Jason Aryeh, a fellow Colgate grad who runs JALAA Equities, a life-sciences hedge fund that had invested heavily in Connetics and cashed out at a profit after it recovered. "When I sold, I knew John was a superstar," said Aryeh.

Aryeh became interested in Ligand around the same time as Loeb. A spinout from the prestigious Salk Institute, Ligand had potentially valuable assets but was floundering under then chief David Robinson. "The [cash] burn was off the charts," Aryeh recalls (Robinson declined to comment). Loeb assembled a 9.5% position in the stock in 2005 and then let fly with one of his famously abusive letters, saying directors should have dumped Robinson long ago "accompanied by a well worn boot planted in the backside."

Aryeh bought a 2% to 2.5% stake in Ligand and joined the board of directors in late 2006, helping to engineer the coup that brought in Higgins as chief executive. Higgins dusted off his Connetics playbook, slashing costs and looking for acquisitions to boost Ligand's royalty stream.

It was a good time to shop. He bought Neurogen, a Branford, Conn. biotech with a couple of promising drugs in development; Pharmacopeia, a Princeton, N.J. company that screens compounds for their promise as pharmaceuticals; and Captisol's inventor, CyDex. "They were probably oversold at the high but way undersold at the low," says Higgins.

Biotech stocks have tripled since 2011, so Higgins' shopping spree has slowed. "We are on a prolific binge of licensing now," he says, using the royalties from existing contracts to boost cash flow and fund a tightly controlled portfolio of early-stage drugs that could produce the next round of deals. Ligand's revenue has more than doubled since 2010 to $65 million last year, including $30 million in royalties. The company swung to profitability in 2013 and bought back $68 million in stock last year—more than five times what it spent on R&D.

No question Higgins has wrung the romance of biotech right out of Ligand. But there's also no question he's made it Loeb-proof. There's nothing left for a takeover artist to cut. "No other biotech has this story," Higgins says. "No other biotech with success could show a flat expense line." *

FINAL THOUGHT

* *"Economic progress, in capitalist society, means turmoil."* —JOSEPH SCHUMPETER

TREND WATCH

FUTURE FARMERS

They've revolutionized the world's factories; now robots could be the biggest thing to hit agriculture since the tractor. At the FORBES AgTech Summit in Salinas, Calif. July 8 and 9, these three groundbreaking companies—and many others—will offer a glimpse of what's to come down on the farm.

BLUE RIVER TECHNOLOGY
MOUNTAIN VIEW, CALIF.

ITS IMAGING MACHINES CAN ANALYZE ENTIRE FIELDS OF PLANTS QUICKLY, ALLOWING FOR BETTER BREEDING, THINNING AND PRECISION WEED CONTROL VIA ROBOTICS.

HARVEST AUTOMATION
BILLERICA, MASS.

SMALL, INTELLIGENT ROBOTS WORK ALONGSIDE FIELD LABORERS WHILE GATHERING AND PROCESSING UNPRECEDENTED AMOUNTS OF CROP INFORMATION.

PRECISIONHAWK
RALEIGH, N.C.

FIXED-WING DRONES STAY AIRBORNE FOR AN HOUR, MAPPING FIELDS FOR FARMERS WITH A HOST OF SENSORS AT RESOLUTIONS UP TO 1 CM/PIXEL.

The People's Microwave

Can the wisdom of crowds design a better fridge or stove? GE Appliances thinks so.

BY JOANN MULLER

IF YOU'VE GOT a hankering for nugget ice—you know, the tiny, chewable frozen pellets that restaurant chains like Sonic use to chill sodas—then GE has an appliance for you. Meet the Opal Nugget Ice Maker, on sale for about $500 this July and ready to serve all your teeth-cracking, goose-bump-inducing, ice-chewing needs.

Aside from feeding one of the stranger compulsions in American dining, the Opal is different from other GE appliances in other ways: It wasn't the brainchild of GE industrial designers and engineers, nor will it hit Home Depot shelves when it first appears.

Instead, the Opal is the product of crowdsourcing through GE's new online community, FirstBuild, and it'll be sold only through crowdfunding site Indiegogo. The Opal will be built in small batches—volume depends on orders—at FirstBuild's 33,000-square-foot microfactory in Louisville, Ky. Total time from concept to production: four months. If it flops, no worries. Upfront costs were some 20 times less than a traditional product rollout, which can cost tens of millions of dollars. "If we're going to fail, we want to fail fast," said Natarajan Venkatakrishnan, also known as Venkat, head of R&D for GE Appliances and director of FirstBuild.

It's a newfangled idea for the nearly century-old division of GE, one whose 7.6-million-square-foot Appliance Park factory complex in Louisville produced millions of refrigerators, stoves and dishwashers for suburban America after World War II but then faded. FirstBuild.com went live about a year ago, issuing online challenges to design new appliances and inviting members to submit their own projects for feedback. If there's enough support for an idea, a team of inventors, tinkerers and seasoned engineers use state-of-the-art 3-D printers, laser cutters and stamping to churn out a limited production run and sell it online. If it's a hit, it graduates to Appliance Park for larger-scale production. The company pays 1% royalties on sales. Half goes to the lead inventor, who also gets $1,000 when it ships; the rest is split, along with $2,500 cash, among all others who contributed.

And though GE is selling the $6 billion (revenues) Appliances division to Electrolux (the deal will close this year), it wants to adapt the approach in other businesses. Meanwhile, FirstBuild has a half-dozen products on the market—including the $200 Paragon induction cooktop, which uses a wireless temperature sensor to automatically adjust the burner's heat for precision cooking. It's already sold more than 2,500 units, raising some $300,000 for production later this year.

FirstBuild hasn't broken even yet, but revenues are growing—as are the stockpile of ideas. The Green Bean, for instance, is a device that lets you reprogram appliances to create new controls and functions. GE admits it hadn't anticipated a market for hackable refrigerators, but heck, says Venkat, it's willing to give it a try. "What makes us think we have the only ideas for what goes into a fridge?" Ⓕ

Appliance science: FirstBuild's microfactory in Louisville, Ky. is a place for low-cost, hands-on R&D.

JASON MYERS FOR FORBES

TIMOTHY ARCHIBALD FOR FORBES

The App Whisperers

A startup called Docker cornered a new technology that bundles code and files so apps can run on any server, a breakthrough that has experts comparing it to VMware. Two years ago it almost went bust.

BY ALEX KONRAD

As anointments go, this one was big. Just minutes after Microsoft CEO Satya Nadella finished his keynote at his annual developer conference in late April, the leader of the world's biggest software company handed the stage to a mild-mannered figure in a dark blazer and a T-shirt with his company's whale logo on it. Ben Golub, the 47-year-old CEO of a startup called Docker, told the packed crowd how surprised he was that his unpolished new product has become such a big deal to Microsoft while still a toddler: "It occasionally stumbles; it occasionally spits up and keeps those closest to it up at night."

Moments later a Microsoft executive, also in a Docker T-shirt, bounded onstage to give Docker's technology a spin. He took all the Microsoft-based code for an e-commerce website, put it through Docker's software and had it running on rival Linux servers in seconds. The developers in the crowd cheered at a feat that

until then would have taken days or weeks.

Microsoft, like dozens of giant tech companies, is rushing to declare its love for Docker's technology, which represents one of the biggest shifts in application development in years. Almost anything you do online now is an app running in the cloud. Netflix, Google Search, Twitter, Facebook and Snapchat all seem to just work magically, but under the hood they're composed of dozens or hundreds of components that deal with memory, databases, security and networks. The developers who build them want to focus on what makes each special, not the backroom piping. They want their apps to run on any cloud server or device, update quickly and withstand the Web equivalent of a loose screw. Docker aims to do all that with a technology called containers. Containers bundle an app with all its code libraries and executable files inside a shell that, like the shipping containers they're named after, fits everywhere and allows appmakers to swap them quickly and approve them for live use in minutes or hours. Big tech firms such as Google have been using in-house versions of containers for years. But Docker made the tools easy enough for everyone else to use.

Apps housed in Docker's free container software have been downloaded 535 million times in just two years. Some 150,000 live apps are running off Docker containers at companies like Goldman Sachs, Amazon and IBM. According to a study by New York-based Enterprise Technology Research, large businesses are testing or planning to adopt Docker faster than any cloud open-source product ever. Docker's powerhouse investors, which include Benchmark, Greylock Partners and Sequoia Capital, have put in $161 million total, most recently at a $1 billion valuation—all for a company that will gross less than $10 million this year. "In 25 years I've never seen this kind of pace of adoption," says Goldman Sachs co-head of technology Don Duet.

Containing their enthusiasm: Docker CEO Ben Golub and cofounder Solomon Hykes on the shores of San Francisco Bay.

And to think that the company behind Docker almost sank two years ago. Its cofounder, a 31-year-old French engineer named Solomon Hykes, graduated from the Y Combinator program in 2010 with a startup peddling a completely different idea. Called dotCloud, its software managed customers' server usage in the Amazon cloud. DotCloud raised $11 million in all from the likes of Yahoo cofounder Jerry Yang, überangel Chris Sacca and firms such as Trinity Ventures and Benchmark. Then dotCloud went sideways. Its customers outgrew it, and Amazon's own support got better. DotCloud's board spent months looking for an experienced operator, and some were writing off their investments until they found Golub, who agreed with Hykes to make a bold move. Otherwise, "they were dead in the water," says Benchmark's Peter Fenton.

Hykes had one card left to play. With $5 million in the bank, he began tinkering with the underlying technology that made dotCloud so fast: containers. On a Monday in the spring of 2013 dotCloud's software engineers showed up for work to be told they would be working on Hykes' new project, code-named Docker, from now on: "Go bring your laptop to Solomon, and find something to do." Hykes had until the end of the year before the money ran out.

Golub, a Cupertino native (he had picked apricots at what would become Apple headquarters), was an unlikely choice. He tried starting a business school in Tashkent, Uzbekistan (to no avail) and struggled through five years as chief of Plaxo, Sean Parker's social startup that was sold off in 2008. Asked by Fenton to advise Hykes, Golub backed Hykes' idea to bet it all on containers. They'd either win fast or fail fast. "I said, screw it. Maybe we will fail, but if we fail it'll be doing something that we want to do," says Hykes.

Hykes and Golub then made an even bolder move: open-sourcing their underlying technology for use by anyone, for free. Within months hundreds of volunteers were writing code to improve and extend Docker's way of running containers. By December 2013 Docker's popularity had impressed new investors enough to put in $15 million.

Docker has been expanding ever since, and currently has 160 employees and 1,300 volunteers on its open-source project. Now on to the moneymaking part. At the DockerCon user conference in June in San Francisco, Golub and Hykes announced a suite of new paid products, with more than 800 customers already waiting for one, a registry to store containers safely. The product's first customer is the federal procurement agency, the General Services Administration. Big customers like that should help boost revenue to $40 million next year. "If Docker proves to be the fundamental layer in computing, then $100 billion [market value] is the upside," says John Vrionis, of Lightspeed Venture Partners, a small investor in Docker.

Many call Docker the next VMware, a firm that shook up computing 15 years ago with a technology called virtual machines, software that allowed you to run multiple operating systems on fewer servers. But VMware didn't open-source its technology and had the field to itself. Docker is counting on big partners such as IBM to resell its products or, like Microsoft and Amazon, include them in their cloud marketplaces. Several dozen startups have popped up to focus on a host of container issues that Docker hasn't addressed yet, from Portworx in storage to Weaveworks in networking. (Docker has already gobbled up several.)

Docker helped ensure its relevance by taking the lead in a consortium announced in June including Microsoft, VMware and its closest rival, the Google-supported CoreOS, to set a single standard for containers. Such a standard, however, only adds to the pressure on each startup involved to make money on top of free technology. There's usually only room for one big winner.

Two months after the Microsoft event, hot companies such as Lyft and GoPro are gathered around Golub and Hykes in the packed halls of DockerCon. Nearby there's a Lego whale, and tables with plush-toy whales and whale logo T-shirts all around. Next year they'll need a larger space—if Docker isn't acquired by one of its big partners first. For a moment Golub is by himself on the floor. Would Docker sell its container future for any price? The CEO gives a wry smile. "We're in this for the long haul." ✱

GADGETS WE LOVE

GETTING TANKED

Even with gas pretty cheap, the Hummer has become déclassé. Modern Mad Maxes will want instead to invest in an "extreme off-road" Ripsaw Extreme Vehicle 2 (starts at $295,000; ripsawtank.com) from Maine-based Howe & Howe. Custom-built and handmade of high-grade steel and aerospace aluminum, the EV2 can exceed 60mph with its 600-horsepower diesel engine. You enter the tank's cab through two batlike gullwing doors; inside you'll find power seating for two, air-conditioning, GPS and a reverse camera. There's even a 15,000-pound winch both fore and aft. Fuel efficiency? Don't ask. (Sub-10.) Nor is it street-legal. But when you're barreling down Fury Road in pursuit of justice and revenge, that'll be the last thing on your mind anyway.

FINAL THOUGHT

✱ *"Everything should be made as simple as possible, but not simpler."*

—ALBERT EINSTEIN

From Farm To Dog Bowl

Lucy Postins' human-grade dog food proves there's no limit to what Americans will spend on their pets.

BY BRIAN SOLOMON

Willow and Taro Postins come to work every day at The Honest Kitchen's San Diego headquarters in the shadow of Petco Park. Their boss and adoptive mother, Lucy Postins, concedes that neither is an ideal employee. They rarely follow instructions, gently harass visitors and fight openly in the hallway.

Of course, Willow and Taro are Postins' dogs, purebred Rhodesian Ridgebacks whose ancestors were raised to hunt lions, not perform office tasks. And they're just 2 of the 12 canines who roam the office, nearly as numerous as the 23 human employees. At The Honest Kitchen, "Must love dogs" is an actual job requirement.

That's because Postins is on a mission to sell pet food that she claims is above and beyond the quality of even the most luxurious kibble. It says so right on the box, which proclaims that the food within is "Human Grade." The dehydrated substance looks like granola put through a blender—just add water—but the ingredient list sounds like it comes from a four-star, farm-to-table restaurant: free-range chicken, cage-free duck, sweet potatoes, pumpkin, cranberries.

"They're the same ingredients that I feed my human family," says Postins, 40. "To me it's not gourmet, it's just common sense."

Postins, who founded the company 13 years ago in her kitchen, isn't marketing to the average pet owner. She's looking for dog and cat lovers who shop at Whole Foods and wouldn't serve nonorganic, genetically modified food to their human families. So far, of the $20 billion pet food market, The Honest Kitchen has captured $21 million in annual revenue, and the company projects growth of nearly 50% this year.

While going upmarket has long been a lucrative strategy in pet food, Postins' tactics take a page from the human food playbook. Just as startup brands are beating industry giants like

Gluten-free pet food? "We're not just blindly following human food trends," says the founder of The Honest Kitchen.

ETHAN PINES FOR FORBES

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Kraft Foods and Campbell's Soup by hawking healthier and more natural options, The Honest Kitchen and others, such as Blue Buffalo, which recently filed to raise as much as half a billion dollars in an IPO, have challenged the pet establishment. The Honest Kitchen is testing the limits, charging up to $120 for a 10-pound box of dog food (that becomes 40 pounds with water).

Early on Postins had no idea such a market existed. The U.K. native settled in San Diego in 1998, following her husband, Charlie, who was designing cars for Nissan. While a marketing manager at premium-kibble-maker Solid Gold, Postins read online that a raw diet might alleviate the persistent ear infections suffered by Mosi, her previous Ridgeback. The fad, which veterinary experts question, encourages owners to serve animals uncooked vegetables and meat, supposedly replicating what their ancestors ate in the wild.

But serving raw ingredients at home can be expensive, messy and even dangerous because of the bacteria. Postins wondered whether a dehydrated form might work—and began to see the potential for a microbusiness that would sell her concoctions mostly to friends. With no professional experience, she cold-called dehydrated-food production plants. Most turned her down, worried that their human clients would freak out if they knew the facilities were also being used to prepare dog food.

In 2002, after Charlie extended a $7,000 seed loan, Lucy quit her day job, but the first production effort failed. Her vision was muesli-like, with recognizable chunks of food. Instead, the manufacturer pulverized her expensive meats and vegetables (which Postins says cost at least twice as much as typical pet food ingredients) into what looked like a fine flour. After figuring out production, she began passing out samples at local dog parks. Then in September 2002 she put up a website and was stunned to get a quick online order from a customer in North Carolina. She was so excited that she spent $38 to overnight $32 worth of product.

Postins spent the next two years operating The Honest Kitchen out of her home, even packing boxes in the garage the night before giving birth to the first of her two children. In 2007, after the business began shipping 220 orders per week, Charlie quit his job at Nissan to help shore up the operation, which by then had three employees. Six months later he had to take a consultant gig to help pay the bills. "Lucy had done an incredible thing getting us to this point, but there was an obvious need for development of the business," says Charlie, now the full-time president and second-in-command to his CEO wife.

The operational struggles continued. In 2009, when Postin's first CFO wasted $250,000 on an expensive data-processing software system too advanced for their fledgling operation, Postins cried when she briefly feared she might not make payroll for her ten employees. It was, she believes, her insistence on maintaining the human-grade label, implying a level of quality beyond competing products, that saw The Honest Kitchen through its growing pains.

To maintain the label, the company has to comply with strict regulatory oversight of its sourcing and production. But not everyone believes those efforts have value. Dr. Lisa Freeman, professor of nutrition at the Cummings School of Veterinary Medicine at Tufts University, says the fancy ingredients are likely no better for pets than less expensive food. "There are many myths across the pet industry these days," says Dr. Freeman. "Ingredient lists are just marketing, and unfortunately consumers are basing their decisions on that marketing."

Postins does in fact spend $1.2 million a year on marketing. Despite working in an office a block from a baseball stadium named for Petco, she refuses to distribute through that or any of the big chains, choosing instead to sell only online and through independent pet stores.

In 2011 The Honest Kitchen brought in investors, raising $5 million in two funding rounds led by ACG, a backer of high-end burger chain Shake Shack. The investment allowed Postins to hire professional staff, increasing her head count to 40, including 15 salespeople. She hopes to return to profitability this year but says the company will never shed its "pets before profits" ethos. In fact, she recently spiked a potentially lucrative deal with a distributor in Japan. The reason? It sells to stores that carry dogs raised in puppy mills. *

FINAL THOUGHT

* *"To his dog, every man is Napoleon; hence the constant popularity of dogs."* —**ALDOUS HUXLEY**

TRENDING

What the 70 million Forbes.com users are talking about. For a deeper dive go to FORBES.COM/ENTREPRENEURS

PERSON
NANCY HUA
After making millions as a stock trader, Hua decided to make apps. When she found she couldn't test them fast enough to be successful, she solved the problem with a startup: Apptimize.

COMPANY
TWIN PEAKS
Founder Randy Dewitt took a winning concept—sports, cold beer and buxom waitresses—and built an expanding restaurant enterprise even a lethal biker brawl can't slow.

IDEA
CRAFT-BEER OVERFLOW
The real startup gold rush is in establishing a brewery. But with high opening and operating costs, small-business owners who hop on this trend might be tapping into a bubble.

TRANSFORMING THE RULES OF ENGAGEMENT

JUNE 9-10 ▪ NEW YORK CITY

Forbes WOMEN'S SUMMIT
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(Top) **Ivanka Trump**, Trump Organization; The Ivanka Trump Collection, **Jennifer Hyman**, Rent the Runway, **Sara Blakely**, Spanx, Inc., **Gayle King**, CBS This Morning; *O, The Oprah Magazine* **Ina Garten**, Barefoot Contessa, **Moira Forbes**, Forbes Media, **Jessica Alba**, The Honest Company (Middle) **Lynda Weinman**, lynda.com, **Ramona Pierson**, Declara, **Roya Mahboob**, Digital Citizen Fund, **Stacey Childress**, NewSchools Venture Fund, **Wenda Harris Millard**, MediaLink, (Bottom) **Colbie Caillat**, Singer-Songwriter, **Carly Zakin**, theSkimm, **Danielle Weisberg**, theSkimm, **Debra L. Lee**, BET Networks, **Rosalind Brewer**, Sam's Club, **Beth Brooke-Marciniak**, EY, **Julissa Arce**, Define American Deborah Dugan, (RED) **Sarah Kunst**, Venture for America, **Melanne Verveer**, Georgetown Institute for Women; Georgetown University; Seneca Point Global, **Denise Restauri**, GirlQuake

Hosted by Moira Forbes on June 10th, this world-class gathering of multigenerational leaders brought together the best and brightest minds to address today's most critical issues. The 2015 Forbes Women's Summit showcased how women today are redefining power through innovation, collaboration, and disruption—all with an unwavering commitment to change the world.

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INVESTING

EMERGING MARKETS

The Lioness of Brazil

For investors Brazil has gone from bonanza to basket case. One of its savviest financiers, Fernanda de Lima, thinks a real comeback is in the making.

BY KENNETH RAPOZA

In 2006, in the midst of a global bull market, the last thing Fernanda de Lima wanted was to go back to Wall Street. After earning degrees in math and econ from University of São Paulo and an M.B.A. from NYU, and then logging long hours for a decade in mergers and acquisitions at Merrill Lynch and JPMorgan, Lima had had enough. She washed her hands of finance and, with her husband as CEO, was neck-deep building an online news site called InfoMoney. The pair was raising three young children at home.

But in August of that year her father, Paulo Cesar de Lima, founder of São Paulo brokerage firm Gradual Investments, had a massive heart attack and suddenly the 38-year-old Lima was called into the family business.

"It was a crazy time. I was thrown onto the trading floor at Bovespa. It was just me and my father's business partner Agostinho [Renoldi] running things," she says of the São Paulo-based stock exchange, now known as the BM&F Bovespa. The exchange is on an old black-and-white-cobblestoned street in the city. It's not a place for stilettos. "I remember that I doubled the population of women on the trading floor when I jumped in ... because it was just me and the cleaning lady," she says.

That was nearly ten years ago. She pauses to collect herself and smiles. "My father never wanted me to work at Gradual. But when he died, everyone was just shocked. He started the firm in 1991, and people at Gradual were lost without him. I felt like I had to do something," says Lima, 47.

Back in 2006 Brazil's commodity-heavy economy was living its gold rush. Business was booming, but Lima's two brothers wanted no part of the stressful family operation, despite pleading from their mother to help their sister.

Fernanda didn't need their help. Over the last decade she has built Gradual into the preeminent nonbank wealth manager and boutique brokerage firm in Brazil, with $2.2 billion in client assets, compared with $100 million when she took over in September 2006. Its head count has grown fivefold to 350, and its offices have grown to 20, including branches in Brazil's Rio de Janeiro and Belo Horizonte.

While the basic blocking and tackling of wealth management and brokerage is core to

Gradual's Chief Executive Fernanda de Lima thinks Brazil is ripe for entry, and she's cleverly opened a window for U.S. investors.

PAULO FRIDMAN FOR FORBES

Gradual's operation, market-driven product innovation is what sets the firm apart from the large banks it mostly competes with. Its biggest recent innovation is a stock index called the Indice Gradual Brasil, or IGB30, which consists of 30 Brazilian-traded equities largely immune to the economies of big foreign trading partners like China and the U.S. In other words, the IGB30 presents a way for investors to play the emergence of Brazil's local economy rather than simply make a bet on natural resources like oil and iron ore.

"I got tired hearing about the Bovespa index falling every night on the evening news," she says, noting the hard times Brazil has felt since the commodity supercycle came to a halt in 2009. "We don't have all these different indices in Brazil that capture the movements in the economy like you have in the U.S. So we decided to create one with seven-year backtracking," she says.

From the beginning of 2008 through June 25, 2015 an investment in Gradual's IGB30 would have risen by 101% versus a 16% decline for Brazil's popular Bovespa index. During the financial crisis of 2008 the index would have fallen 29%, compared with a drop of 41% for Bovespa. The only time the index would not have outperformed the Bovespa was in 2009, when it climbed 61% compared to a 83% rise for the major index. Gradual's IGB30 doesn't own Petrobras or Vale, Brazil's giant export-driven commodity firms.

Of course, Gradual has been quick to monetize its innovations. The IGB30 went live on Bloomberg last year, and investors currently pay Gradual a 2% fee to buy into the basket of 30 stocks, including companies like beverage giant AmBev, airplane maker Embraer, cosmetics company Natura and Lojas Americanas, a low-cost Brazilian retailer similar to Kmart.

For U.S. investors the options for buying Brazilian stocks and bonds directly have always been limited. Brazil's biggest companies have American Depositary Receipts (ADRs) trading here, and dollar-denominated, commodity-heavy exchange-traded funds like iShares MSCI Brazil ETF (EWZ) are popular. However, Lima felt Americans and other foreigners were missing out on some of Brazil's best opportunities, so she formed

a partnership with Cynthia DiBartolo of Tigress Financial Partners in New York to offer U.S.-based investors who open an account at Tigress ($250,000 minimum) the chance to invest directly in Brazilian stocks, bonds and funds in Brazilian reals.

Today, for example, local-currency corporate bonds offer yields in excess of 10%. Or if you prefer to invest directly in equities, consider Brazil-based footwear giant Grendene. In tropical Brazil stylish sandals are a staple, like rice and beans. One of the biggest brands in Brazil is Ipanema from Grendene.

"It is diversifying. Its cost of production isn't that expensive. And it has a great brand [priced at $10 a pair] modeled by Gisele Bündchen," Lima says of the supermodel wife of quarterback Tom Brady. Grendene's stock is up 23% in the last 12 months and has a dividend yield of 5%.

While many U.S. investors are reluctant to consider Brazil, which has been plagued by political scandal, corporate corruption and rampant inflation, a few private equity funds and money managers have begun to make select investments.

"If you wanted to make a contrarian call today, then I think Brazil is ripe for it," says Krishna Memani, chief investment officer of Oppenheimer Funds.

"This is a good entry point," adds Lima, who admits that her opinion has changed 180 degrees in the last few months. In March there were concerns that Brazilian President Dilma Rousseff would oust her new, well-regarded finance minister, Joaquim Levy. She hasn't. Levy is putting Brazil's inflation-prone financial house in order. The Central Bank, for example, has been tightening, raising interest rates in an attempt to reduce the nation's current 8.5% inflation rate to 4.5%.

Lima's chief economist, Andre Perfeito, thinks Brazil's benchmark interest rates will rise to 14.5% from 13.75% today. Fernanda de Lima compares the current situation in Brazil with the environment at the turn of the millennium. In 1999, during an economic crisis, Brazilian interest rates shot up to 45% as investors dumped Latin-American risk.

"But then when rates began declining in 2000, the economy went like this," Lima says, demonstrating an ascension with her left hand. "That's what we think will happen again this time. Interest rates will go to 14.5% and then drop to around 10% in 2016."

Falling interest rates and a stronger Brazilian real—a currency Gradual thinks has more upside than downside—are of particular interest to bondholders. Anyone holding a bond yielding 14% is going to be paid handsomely for it when rates drop by 30%.

Besides offering direct access to Brazilian sovereign bonds through Gradual's Tigress link, Lima's firm recently created a secondary market for midcap corporate bonds using its relationships with 250 Brazilian brokers and money managers to create liquidity.

"If you're buying something today and looking to sell it tomorrow, I can find someone to buy it," she attests. Lima recently offered her clients the below-investment-grade bonds of Saneago, a water treatment company with an inflation-plus-10% coupon. More high-yield bond offerings are on the way, including tax-exempt infrastructure bonds.

To this end Gradual is working with the Brazilian congress, a legal team and regulators to create agricultural infrastructure bonds. "Maybe an ethanol-pipeline project," says Lima, noting that Brazil is the world's leading sugarcane ethanol producer. Another fund being created by Gradual is backed by retail receivables. It will likely have a three- to five-year maturity and is expected to yield inflation plus 16% to 18%.

Despite Lima's success in building up her family's Gradual Investments, she says she has little interest in going global or expanding into investment banking à la Goldman Sachs or JPMorgan. Fernanda is content being a trusted middlewoman to Brazil's mass affluent and small institutions. "I don't know everything, but I want to bring my clients the best of what I do know," she says. "We don't have bankers trying to find business. Business is coming to us." *

FINAL THOUGHT

* *"In the past, if the United States sneezed, we caught pneumonia. Today, if the United States sneezes, we sneeze too."* —**LUIZ INÁCIO LULA DA SILVA**

GO
CONSIDER
STOP

YOUTH WILL BE SERVED

Seattle-based Bill Smead has topped most of his large-cap peers over the last five years with his $1.2 billion Smead Value fund, returning an average 21% annually. His contrarian streak has him betting Millennials won't be so different from their Boomer forebears.

NVR
The idea that Millennials won't buy homes is hogwash, Smead says—and once the buying starts, it could mean big things for builders like NVR, even at 14 times earnings.

DISNEY
For the next ten years it's a great bet. In the shorter term ESPN is a juggernaut, and Marvel, Pixar and Lucasfilm blockbusters will keep coming, so the Mouse isn't cheap.

MCDONALD'S
Smead is a buyer of Millennial trends, and with young people waiting longer to have kids, he thinks McD's target audience is hitting an air pocket; he sold his shares. "There's a dearth of 5- to 10-year-olds."

INVESTING

REAL ESTATE

Land Rush

Wild, Wild West. You could get rich, or enter the wrong saloon and lose your shirt.

BY STEPHANE FITCH

Realty Mogul CEO and cofounder Jilliene Helman was quick to leave a bank job to stake her Web claim.

ETHAN PINES FOR FORBES

In March 2012 Jilliene Helman was a 25-year-old vice president at Union Bank in Los Angeles, where she'd worked in real estate and wealth management, while dreaming of her own startup. That month Congress passed the JOBS Act, making it easier to raise capital through crowdfunding on the Web.

Helman saw her chance. She recruited Justin Hughes, a friend who consulted for businesses building online communities, to help her launch a real estate crowdfunding site. Clearing the path, the Securities & Exchange Commission issued two "no-action" letters saying it wouldn't object if real estate projects were crowdfunded, so long as all investors were "accredited"—meaning with at least $1 million in investable net worth or annual income of $300,000-plus per couple.

In March 2013 the two launched Realty Mogul with their first deal: a $110,000 loan for a fix-and-flip duplex in Compton, Calif., a Los Angeles County city notorious for gang activity.

Since then Realty Mogul, with Helman as CEO, has raised $10 million in venture capital and signed up more than 17,000 accredited investor members, who have sunk $80 million into 120 real estate deals involving 250 properties. One was Georgetown Plaza, a $31.5 million office building in Washington, D.C. for which Realty Mogul investors supplied $1.75 million in equity financing. "I was part of a generation that grew up entirely in the age of computers," says Helman. "To us, it was so logical that the capital markets would move to the Internet."

Logical, maybe. But that doesn't mean you should move your own capital into real estate found on the Web—and certainly not without a lot of due diligence. While promised returns are typically three to five times the 3.5% dividend yields paid these days by real estate investment trusts, the risks are multiplied, too. Publicly traded REITs eschew high leverage, own vast portfolios of property and are watchdogged by Wall Street analysts and asset managers.

The crowdfunding deals are in some ways a throwback to the days when putting real estate in your portfolio meant buying part of a small

building or maybe joining a limited-partnership syndication for a larger developer. Whether you've invested in person or on the Web, you'll have no claim against a developer's other holdings if the deal you've bought goes bad.

Getting listed on a crowdfunding site? Meaningless. After the SEC's letters, "anybody and my brother could create a website," warns Darryl Steinhause, a partner specializing in real estate finance at law firm DLA Piper. He counts more than 100 sites and describes real estate syndication as having "shifted from 'Mother, may I' to the Wild, Wild West."

Still, the best-run sites, including Los Angeles-based Realty Mogul and Washington, D.C.-based Fundrise, curate deals, vetting the sponsors and weighing in on what terms should be offered to potential investors. Helman says that, in addition to scrutinizing the economics of each proposed project, Realty Mogul does background, criminal and credit checks on each funding applicant and reviews his or her historical deal flow, liquidity and success. The site's head of credit has three decades in real estate finance, including eight years at JPMorgan.

Ultimately, however, Realty Mogul, like less careful competitors, makes its money from the firms that solicit your dollars—the sites generally collect a percent or two of the money raised and/or listing and origination fees. There are no guarantees. Helman urges investors to apply their own skepticism. "It's real money, and there's potential for real losses," she says.

Fundrise, which has signed up more than 25,000 accredited investors, has gone a step further to reassure potential investors. Founding brothers Daniel and Benjamin Miller are using their own deep pockets and $35 million in capital they raised last year to buy the debt and equity they offer on Fundrise; they then resell it with a pledge to keep for their own portfolio anything that doesn't sell on the website.

"Anything that's on Fundrise.com is something we'd invest in ourselves," says Daniel, 28, who serves as president of the website, while Benjamin, 38, is CEO. They also run their own private real estate company.

The Millers' dad is Washington, D.C. real estate developer Herbert S. Miller, who over the last 48 years has built more than 20 million square feet of retail, commercial and residential space, including Washington Harbour, Gallery Place and the Shops at Georgetown Park.

Their real estate connections create deal flow but also potential conflicts. On its home page recently, Fundrise featured tax-exempt bonds paying 5% for Silverstein Properties' construction of the new 3 World Trade Center in Manhattan. Both the CEO and the president of Silverstein invested in Fundrise's $35 million capital round, led by Renren, the Chinese social media company. "There is a potential conflict," Miller concedes. But he notes that the bonds are being offered on the same terms to clients of Goldman Sachs, which underwrote them.

Those bonds are an aberration. Most of what's offered on crowdfunding sites are small-time deals—even as small as a flipper borrowing to fix up and resell a home.

Marc Halle, who manages $5.5 billion in REIT securities at Prudential Real Estate Investors, points out that armies of real estate pros—more than 600 at Prudential alone—spend their days looking for the best investments, and he questions whether quality deals will end up on the Web. "To put it a bit cynically, if I were a developer with a good track record and a real ability to execute and experience, why am I here [on a crowdfunding site]?"

Miller agrees the average quality of projects on crowdfunding sites is low, but says Fundrise taps into $5 million to $30 million projects by midgrade and even high-grade developers—projects too small for the REITs and institutional investors. Example: A Denver-area developer building a $14 million mixed-use property in the city's artsy River North neighborhood is offering $1 million of high-dividend preferred equity on Fundrise. During and immediately after construction, those dividends will be paid in IOUs, not cash, with the amounts made up when all tenants are in place. If all goes smoothly, the annualized return on the preferred should be 13% by late 2018, when the developers plan to sell the property.

Miller, like Helman, predicts even bigger players will eventually come around. To disrupt an industry, he says, "you have to start with a niche, fill a void, then expand." *

FINAL THOUGHT

"The intelligence of that creature known as a crowd is the square root of the number of people in it." —TERRY PRATCHETT

TRENDING

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IDEA
STOCKS VS. UNCLE SAM
Fed tightening is coming, eventually, but even a few rate hikes seem unlikely to derail the equities train anytime soon.

COMPANY
BLACKBERRY
Woe, Canada: BlackBerry profits stink, sales are falling, and the beleaguered company's buying back stock to offset dilution.

THING
STOCK SPLITS
With its stock at an alltime high, Netflix announces a 7-to-1 split, its first in 11 years—mimicking Apple's 7-to-1 from last spring.

KEN FISHER // PORTFOLIO STRATEGY

BET ON THE BULLS, NOT THE SHEEP

WHILE IT'S OFTEN claimed that this bull market is the least appreciated in memory, the problem is our memories. As detailed in my 2011 book, *Markets Never Forget (but People Do)*, our memories of past markets are incredibly inaccurate. This bull market turns out to be pretty darned normal for one following such a huge bear market.

The biggest bear markets have historically created enough skeptics to make the subsequent bull runs feel unjustified or death-defying. That's the famous "wall of worry" that we're currently climbing over. Remember Sir John Templeton's famous phrase, "The four most dangerous words in investing are 'This time it's different.' " It isn't really.

Economic and social details always seem new, yet they rarely have much impact on these bull cycles. In 2009 I criticized the then ubiquitous idea of "new normal" as "utter nonsense—rubbish of the first caliber" as it relates to stocks. Look for normalcy as your stock investor guide and you'll be better served.

Similarly nonsensical: the idea that we've avoided implosion and disaster and had any bull market at all only due to our various central banks flooding us with money via "quantitative easing." As I've detailed often, yes, QE built bank balance sheets and central bank reserves. But America's and the world's actual quantity of money, M2 or M4, has grown slowly throughout this expansion, however measured.

LOOK FOR NORMALCY AND YOU'LL BE BETTER SERVED

Over time bull markets have trended irregularly longer. So ours may end up the longest ever. I'm not betting on that. But you shouldn't bet against it. It's a real, normal long bull. So relax and enjoy it with stocks like these:

Any generic negative blather that's supposedly bad for stocks is supposedly worse for Thailand's. Buy the blather. On Oct. 28, 2013 I recommended moderately fast-growing **KASIKORNBANK (KPCPY, 24)** at 23. It promptly fell to 18 before rising to 29 in mid-2014. Now that it has just plunged to 24, buy that volatility again! It's bigger, stronger, well managed and relatively cheap. Its dividend should yield 2% this year.

Spain, fashion and foreign retailing are all on a roll. And the world's biggest fashion force, **INDUSTRIA DE DISENO TEXTIL (IDEXY, 17)**, keeps slowly gaining share. As long as it does—and it should—the stock will shine through this bull market despite not being formally cheap by any standard. Think of it as a high-quality, big growth stock slowly being discovered.

My Feb. 11, 2013 column recommended **MICROSOFT (MSFT, 45)** at 27—for the first time since the '90s. It was even, I think, the first place in print to predict former CEO Steve Ballmer's replacement. It's done well since and should still as "old tech" outpaces the market, a very normal process in the back half of most bull markets. It sells at 15 times my June 2016 earnings estimate with a 2.6% dividend yield.

Elon Musk gets all the cool-guy attention with cars and batteries. I hate cool guys. If you build your dreams on being environmental, buy China's **BYD (BYDDY, 12)**, which literally stands for "Build Your Dreams." It is the world leader in rechargeable batteries and arguably China's top car brand and leading electric car and bus maker, with a volume of roughly 375,000 vehicles sold annually. It's 13 times my 2015 earnings guesstimate.

One of the world's largest videogame publishers, **ACTIVISION BLIZZARD (ATVI, 25)**, keeps defying pundits' predictions of implosion at the hands of mobile apps and new competitors. It's doubled since my Jun. 4, 2012 recommendation. At that time I called it "a tough hat trick." Now I say it's invincibly death-defying and will remain so throughout this bull market, positively, pleasantly surprising at 17 times my current earnings estimates.

THOMAS KUHLENBECK FOR FORBES

MONEY MANAGER KEN FISHER'S LATEST BOOK IS *BEAT THE CROWD* (WILEY, 2015). VISIT HIS HOME PAGE AT WWW.FORBES.COM/FISHER.

Outpatient Joint Replacement at White Fence Surgical Suites: Patients Safely Return Home the Same Day After Hip, Knee and Shoulder Surgery

WRITTEN BY K. H. QUEEN

A decade ago, patients receiving a joint implant stayed in the hospital for nearly a week, where they relied on nurses for pain medicine, risked hospital-acquired infections and languished in hospital beds with little opportunity to move around. Today, people can have a joint replaced first thing in the morning and be home in time to watch the nightly news.

Home isn't just where the heart is—it's where today's joint replacement patients become more independent, feel more comfortable and recover more quickly. That's the philosophy at White Fence Surgical Suites located in New Albany, Ohio, a suburb of Columbus. White Fence Surgical Suites was founded in 2013 by world-class surgeons from Joint Implant Surgeons, an orthopedic practice established over 40 years ago. These doctors, who also perform joint replacement surgeries in a hospital setting, designed this state-of-the-art center to allow the vast majority of their patients to safely travel home the day of surgery.

White Fence Surgical Suites is one of the world's leading outpatient joint replacement surgery centers, with patients coming from across the country and beyond. Since White Fence Surgical Suites' inception, its surgeons have performed more than 2,500 outpatient joint replacements—more than any other outpatient center in the United States.

"You jump-start patients' recovery by allowing them to go home the day of surgery."

—**DR. KEITH R. BEREND**

SENIOR PARTNER, JOINT IMPLANT SURGEONS, INC., AND PRESIDENT AND CEO, WHITE FENCE SURGICAL SUITES

"The number one important reason that patients do well after any joint replacement is being independent."

—**DR. JASON M. HURST**

PARTNER, JOINT IMPLANT SURGEONS, AND FOUNDER/PARTNER, WHITE FENCE SURGICAL SUITES

Getting a Jump-Start On Recovery

"You jump-start patients' recovery by allowing them to go home the day of surgery," says Dr. Keith R. Berend, Senior Partner, Joint Implant Surgeons, Inc., and President and CEO, White Fence Surgical Suites. "Patients aren't slowed down by the fact that they've been in the hospital for one to three days, lying in a hospital bed. They're already days ahead of people who had to stay in the hospital."

Approximately 40% to 60% of patients are candidates for outpatient joint replacement as opposed to traditional hospital stays. Of these, more than 90% of total hip, knee, partial knee and shoulder replacement patients can be driven or flown home the day of surgery. Within weeks, patients are biking, walking, hiking, playing golf and playing tennis—pain free.

"It's still the same surgeries," says Dr. Jason M. Hurst, Partner, Joint Implant Surgeons, and Founder/Partner, White Fence Surgical Suites. "But we're treating the patient differently afterward. They're up. They're walking. They're taking care of themselves that first day, as opposed to having someone wait on them hand and foot. The number one important reason that patients do well after any joint replacement is being independent. They're also happier."

Proven Methods to Minimize Pain

The doctors at White Fence Surgical Suites have focused on several factors to help ensure a successful outpatient surgery. Advanced anesthesia and blood management techniques reduce the need for hospital supervision to manage the side effects of surgery, Berend says.

Minimally invasive, muscle-sparing techniques for each total hip, total knee, partial knee and shoulder replacement further reduce the need for hospital supervision, Berend says. These techniques speed short-term recovery while still offering the same long-term benefits of a joint replacement. One example is the anterior approach to total hip replacement, where no muscles are cut and there are no post-operative restrictions. Today's sophisticated smart tools provide immediate feedback to surgeons so they can make the most accurate bone cuts, precisely place the implant and minimize surgical trauma, says Dr. Adolph V. Lombardi, President, Joint Implant Surgeons, and Founder/Partner, White Fence Surgical Suites.

Doctors also utilize a multimodal approach to manage and minimize pain without using narcotics. These include nerve blocks, steroids, oral pain medications, injections and anti-inflammatory medications, Lombardi reports.

"The biggest fear people have is pain," Dr. Lombardi notes. "They are worried this is going to be a painful experience. Being cognizant of this fear, we have worked diligently to minimize post-operative pain. We find that by working

> "Our surveys show that patients are very impressed with their whole experience, especially their rapid recovery."
>
> —**DR. ADOLPH V. LOMBARDI**
> **PRESIDENT, JOINT IMPLANT SURGEONS, AND FOUNDER/ PARTNER, WHITE FENCE SURGICAL SUITES**

closely with our anesthesia colleagues, we can effectively treat the patient's pain. Patients are encouraged by the fact that they can be discharged to go home on the same day. As a result of our holistic approach, the White Fence Surgical Suites experience has been extremely positive. Our surveys show that patients are very impressed with their whole experience, especially their rapid recovery."

Post-Surgery Care Makes the Difference

Before and after surgery, increased attention from the medical team also helps speed patient recovery. Patients interact with their surgeon six or seven times during the entire time the patient is recovering—which is two or three times more interaction than if they had their surgery at an inpatient hospital, Berend says.

"It is this intense and close interaction that provides our patients with a comfortable experience where they know they are truly cared for," he adds.

According to Dr. Michael J. Morris, Partner, Joint Implant Surgeons, and Founder/Partner, White Fence Surgical Suites, patients come in about 90 minutes before their surgery. After the procedure, patients are monitored in a post-anesthesia suite and then moved to a recovery unit where nurses watch vital signs, check for nausea and make sure pain is under control. As soon as possible, patients can eat solid foods along with a soft drink or coffee to minimize post-surgery caffeine-deprivation headaches. Patients then see a physical therapist and soon afterward are cleared to go home, he explains.

Finally, establishing expectations is another key to a successful, speedy recovery. "If I tell you, 'This is doable,' and you've seen others do it, you try as a patient to achieve that goal," Lombardi says. "It's all about setting the mind-set that 'This is outpatient surgery, and you're going to get well quickly.' It's a pleasure to see the joy on patients' faces."

Says Dr. Morris, "Patients often tell us, 'You've given me a new lease on life.'" ■

> "Patients often tell us, 'You've given me a new lease on life.'"
>
> —**DR. MICHAEL J. MORRIS**
> **PARTNER, JOINT IMPLANT SURGEONS, AND FOUNDER/ PARTNER, WHITE FENCE SURGICAL SUITES**

Oxford Partial Knee Offers Less Pain, Greater Mobility and a Faster Return to Active Life Compared to Total Knee Replacement

WRITTEN BY K.H. QUEEN

For people with arthritis in only one component of their knee, some studies have demonstrated that partial knee replacement results in a more natural-functioning knee, a faster recovery and a more active lifestyle than a total knee replacement, says Todd Davis, Vice President, Knee Marketing for Zimmer Biomet, maker of the Oxford Partial Knee.

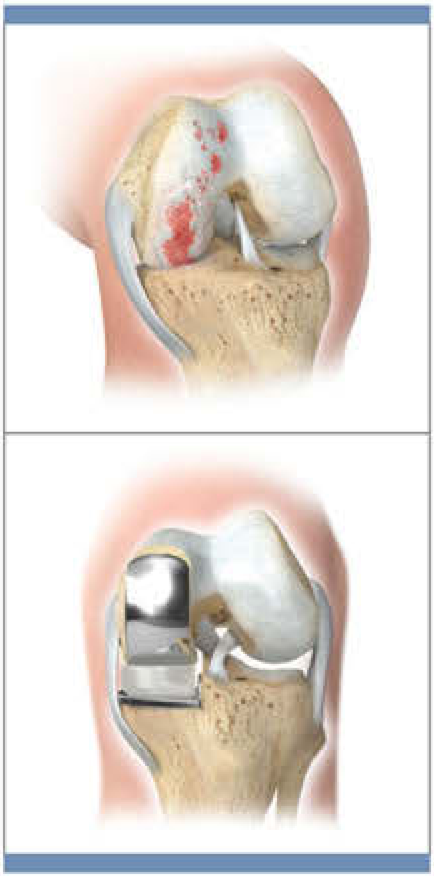
But, according to Davis, many people who could benefit from a partial knee replacement instead get a total knee replacement, which means cutting out healthy ligaments.

"Only about 8% of patients who go in for a knee replacement end up with a partial knee," he says. "The other 92% end up with a total knee replacement. But we think that as many as 50% of knee replacement patients actually meet the criteria for a partial knee."

Partial Knee Replacement Gains Popularity

Word is finally getting out about this option, and many patients have been recipients of an Oxford Partial Knee. In fact, it's the most popular partial knee replacement on the market today, Davis adds. The manufacturer is so confident in this knee that it offers a lifetime warranty† to replace components at no cost.

A partial knee replacement offers several benefits over total knee replacement. Replacing just one compartment of an arthritic knee means surgeons can avoid cutting the ACL (anterior cruciate ligament). The patient's own ligaments are preserved to stabilize the knee. This may be one reason why one study reported that partial knee patients were more than two times more satisfied with their ability to perform daily activities, such as climbing stairs or getting out of a car. Partial knee replacement patients also recover faster and have less pain after sporting activities.



Top image: Arthritic damage in the medial compartment of the knee. *Bottom image:* Arthritis removed and replaced with an Oxford Partial Knee, all ligaments retained.

> "The knee is largely left intact; we save 75% of the patient's native bone and save all ligaments."
>
> —TODD DAVIS
> VICE PRESIDENT,
> KNEE MARKETING,
> ZIMMER BIOMET

Another benefit shown in recent studies is that partial knee replacement allows for greater cost savings per procedure compared to total knee replacement, and more partial knee replacements are performed in an outpatient setting, which also lowers costs to patients.

"It's a less traumatic surgery," Davis says. "Outpatient partial knee replacement is one of the fastest-growing segments in the orthopedic community today. The knee is largely left intact; we save 75% of the patient's native bone and save all ligaments."

Davis concludes, "I would encourage anybody who's considering a knee replacement procedure to ask their surgeon about the possibility of a partial knee replacement."

For more information about the Oxford Partial Knee and the procedure, as well as an orthopedic surgeon locator, visit **www.oxfordknee.com**, or call 1-800-390-5067 for further product information. ■

† Subject to terms and conditions within the written warranty. Not all patients are candidates for partial knee replacement. Only your orthopedic surgeon can tell you if you're a candidate for joint replacement surgery, and if so, which implant is right for your specific needs. You should discuss your condition and treatment options with your surgeon. The Oxford Meniscal Partial Knee is intended for use in individuals with osteoarthritis or avascular necrosis limited to the medial compartment of the knee and is intended to be implanted with bone cement; patients without ligament sufficiency are not candidates. Potential risks include, but are not limited to, loosening, dislocation, fracture, wear and infection, any of which can require additional surgery. For additional information on the Oxford knee, including risks and warnings, talk to your surgeon and see the full patient risk information at oxfordknee.com or call 1-800-390-5067.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JOHN BUCKINGHAM // INTRINSIC VALUE

SKATE TOWARD THE OPEN ICE

"I SKATE TO WHERE the puck is going to be, not where it has been." National Hockey League legend Wayne Gretzky's famous quotation would appear to be an excellent admonition for those seeking profits on Wall Street. After all, the stock market is an anticipatory mechanism, with investors always more interested in what a company's top and bottom lines will look like several quarters hence, versus how those numbers shaped up in the latest period.

Of course, sometimes the entire hockey team has skated to where they think the proverbial puck is headed. This creates opportunities for contrarian investors willing to skate the other way. Case in point: The media has been loudly sounding warnings about the looming Federal Reserve rate hike. *Time* magazine, for example, alarmed investors in March when it cited data from S&P Capital IQ claiming that since World War II the S&P 500 experienced a decline 13 of 16 times during the six months before the initial rate hike.

Sounds ominous until one takes a closer look at what actually occurred over the full time spans before and after the Fed has begun to tighten. Despite significant volatility, equities have, in fact, actually gained ground for the full 6 months before, as well as 12 months after, Fed tightenings.

THOSE WHO FEAR THE FED NEED ONLY CONSIDER THE TAPER TANTRUM

No doubt there has been plenty of volatility around major Fed moves, with sizable short-term losses sometimes suffered by those who couldn't stomach the fluctuations, but those willing to remain patient have been rewarded far more often than not.

Those who fear the Fed need only consider that stock prices managed to survive and thrive despite the May 2013 Taper Tantrum. Likewise, the market averages are nicely higher today even though the Fed did slowly trim QE3 from $85 billion per month in December 2013 down to where it currently just reinvests MBS principle and rolls over maturing Treasurys.

I do not mean to imply equity investors would rather rates were rising. Stocks "should" be less attractive when higher yields are available on competing investments, and the present value of future earnings and dividend payouts is reduced by a new higher discount rate. But number crunching suggests that value-priced, dividend-paying stocks actually performed very well in the 12 months following the initial Fed rate hike—especially when the federal funds rate begins at a very low level, as it is today.

My analysis, using freely available market data from professors Eugene F. Fama and Kenneth R. French, shows that value stocks returned 26.8% in the 12 months that followed the December 1954 Fed liftoff (the fed funds rate was then 1.3%), while dividend payers advanced 26%. Meanwhile, the value portfolio gained 44.6% and the dividend portfolio 31% in the year after the August 1958 Fed tightening, when the fed funds rate was 1.5%. Finally, and more recently, value stocks jumped 19.2% and dividend companies climbed 7.9% in the year after the June 2004 Fed rate-hike initiation that began at a 1% rate.

To be sure, my sample set is small, and past performance is never a guarantee of future performance, but the historical evidence is compelling. Here are three dividend-rich value picks:

Dry bulk shipper **NAVIOS MARITIME (NM, 3.96)** has tumbled as much as 14% in 2015 despite a well-supported dividend yield of 6.8%. Cyclical shipping rates are still depressed, but they have bounced back by more than 60% in the last four months, and Navios posted better-than-expected operating results in the first quarter.

I am also fond of **BIOMED REALTY (BMR, 20)**, a life-sciences-focused REIT that recently posted better-than-expected funds from operations and revenue, with little to show for the effort, as the stock is off by 9% in 2015. I think BioMed, which yields 5% and enjoys strong occupancy rates from a cash-rich customer base, is a unique vehicle for playing the health care sector, especially the more volatile and pricey biotech segment.

Finally, I like **ENTERGY (ETR, 71)**, the giant utility engaged in electric power production and retail distribution operations in the southern and northeastern U.S. The stock is off 20% since the start of the year, even as Q1 profits topped analyst expectations and management reiterated its full-year 2015 EPS guidance. Entergy has a P/E ratio of 14 and dividend yield of 4.8%.

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THOMAS KUHLENBECK FOR FORBES

BE BULLISH BUY BANKS

THOMAS KUHLENBECK FOR FORBES

BACK IN THE PANIC DAYS of 2008 I thought the market would rally sharply over time (FORBES, *Dec. 8, 2008*). But I didn't think it would almost triple in a little more than six years. Has irrational exuberance returned?

The way I see it two serious economic risks linger. The first is that income of the middle and working classes is still lagging the percentage increases in income of the upper classes and the superrich. Consumer buying is the most important driver of economic growth, so if wage increases barely stay ahead of inflation, it affects tens of thousands of companies both large and small. Many economic historians paint Henry Ford to the right of Genghis Khan. But it was Ford who first realized that if his workers had higher wages they would spend more on everything, including model Ts. He raised assembly-line workers' wages to the then unheard-of price of $5 a day. Many other firms followed. The result was one of the greatest booms in American history and a stock market that soared for decades.

A second problem we face is that the Fed and the Treasury's trillion-dollar quest to increase employment, otherwise known as QE, still leaves everyone wondering where the money actually went. If the funds would have wound up as loans to smaller companies it would have produced far more jobs. But it hasn't. Smaller companies are denied the funds by the nervous bankers under pressure from overzealous bank examiners. So the money goes to private equity, hedge funds and other speculators. Little of this money creates jobs. In fact it may be doing the opposite as debt-fueled mergers precipitate cuts.

BANKS ARE FINALLY EMERGING INTO A NEW, FAR MORE POSITIVE WORLD

So we have the irony of the Fed pouring trillions into the economy to lower rates and create jobs, which winds up inadvertently causing a dramatic underfunding of retirement funds and IRAs.

So why am I still a long-term stock bull? The reason is simple. Investors have nowhere else to go with their money.

The chance of a 5% to 10% return on equity investments sure beats 3% on 30-year Treasurys. Remember that inflation is the enemy of long bond holders. A 1% rise in rates results in an 18% drop in principal on a 30-year bond. By contrast, inflation has always been a major supporter of stocks over time. Since 1945, for example, the dollar has lost 92% of its purchasing power. The Dow Jones industrial average, by comparison, is up 93 times from the beginning of 1946.

Given my contrarian approach to stocks, I think the best way to play this lofty market is by holding once-hated bank stocks. Financial institutions are now finally emerging into a new, far more positive world. Most have adjusted to the new heavily regulated environment, and loan demand is rising. Higher interest rates should increase spread income over time. Importantly, American banks have some of the lowest loan-to-capital ratios in the world. This combination should result in both higher dividends and appreciation over the next few years.

WELLS FARGO (WFC, 57) is one of the nation's largest banks, with well over 8,700 branches. Unlike many multinational banks Wells Fargo has wisely stuck to basic banking. It trades at a significant discount at 1.8 times book (versus 2.8 for the S&P 500). The stock yields 2.5%, with the dividend likely to continue to rise each year in the foreseeable future.

FIFTH THIRD BANCORP (FITB, 21) is a bank holding company that owns banks in 12 states. The largest one, Fifth Third, has some 1,300 branches. This year it sold most of the 720 restructured mortgages it owned for a $90 million profit. Earnings should also get a boost from cost cuts. FITB is cheap at a P/E of 12 and price to book value of 1.2, with a healthy 2.4% dividend yield.

PNC FINANCIAL (PNC, 98) is another good buy. A mix of steady loan growth and rising deposits should buoy earnings. The stock has returned 12.5% in the last year and yields 2%.

For those who prefer funds and want a diversified portfolio, buy **SPDR S&P BANK ETF (KBE, 37)**. The exchange-traded fund (ETF) holds 66 stocks ranging from JPMorgan Chase to smaller-cap companies such as Cullen/Frost Bankers and People's United Financial. The stock has bounced back from a low of $9 in 2009 to its current price of $37.

DAVID DREMAN IS CHAIRMAN AND FOUNDER OF DREMAN VALUE MANAGEMENT. VISIT HIS HOME PAGE AT WWW.FORBES.COM/DREMAN.

Features July 20, 2015

In 2007, 23-year-old Katy Perry was paid $2,000 to play a New Year's Eve gig in San Francisco, the most lucrative show of her career to that point. Now circling the globe on her Prismatic World Tour, she grosses about 1,000 times that amount each night.

PAGE 64

Photographed by Jamel Toppin for FORBES at the St. Regis Rome. Katy Perry wears Dolce & Gabbana.


W.HOFFMANN
I HAD

STYLED BY JOSEPH DEACETIS WITH EMANUELA FONTANA; MAKEUP BY TODD DELANO/CROSBY CARTER MANAGEMENT; HAIR BY CLYDE HAYGOOD/FORWARD ARTISTS.

Woman Of The World

Katy Perry earned $135 million this year—more than any other entertainer on Earth. How the sheltered daughter of born-again ministers became America's top pop export.

BY ZACK O'MALLEY GREENBURG

Photographed by Jamel Toppin for Forbes at The St. Regis Rome. Katy Perry wears a Moschino dress; shoes by Guiseppe Zanotti; jewelry by Ellen Conde.

My black Mercedes is weaving through Rome's heavy traffic at dusk when a strange voice calls my cell with instructions straight from a John le Carré novel: Exit the vehicle immediately. Walk toward the Colosseum, about half a mile away. And then call back when you approach an arch.

Such are the cloak-and-dagger measures when you're scheduled to meet Katy Perry, one of the most famous and highest-earning stars in the world. Three paparazzi had apparently been trailing my car—I hitched a ride from Perry's driver—and so her head of security, from some seemingly omniscient location, dispatched me on foot. I pass the Forum and statues of various Caesars before coming upon the Arch of Titus, a 1,933-year-old structure that served as inspiration for the Arc de Triomphe. I call Perry's guy, who instructs me to look to my left, where dozens of people are strolling past the 30-year-old singer, incognito in a white fedora and oversize Ray-Bans.

She is immersed in a conversation with her personal tour guide, an affable art historian who looks like an Italian version of Ron Weasley. He's detailing the types of animals that gladiators battled on the floor of the Colosseum, which looms in the background, and she's already finishing his sentences. "So they had no idea what they were fighting," she says. He nods. A passing street merchant, apparently duped by Perry's disguise, tries unsuccessfully to sell her a selfie stick.

"I'm over this," says Perry, cheerfully. "Let's go. What else are we going to see?"

You could forgive Perry for not wanting to linger. After all, she's seen more than her share of stadiums lately thanks to her year-and-a-half-long Prismatic World Tour, which included a Super Bowl halftime performance (viewed on live TV by a record 118.5 million people) and will finally end this fall in Central America, punctuated by a headlining gig in front of 100,000 at Brazil's Rock in Rio.

Touring explains Perry's whopping pretax earnings of $135 million over the past 12 months, placing her at No. 3 on this year's Celebrity 100 list, behind only the boxers Floyd Mayweather and Manny Pacquiao—who earned a one-night, once-in-a-generation payday for their snooze of a fight—and more than Taylor Swift, Rihanna and Miley Cyrus combined. But unlike some of her fellow divas, she doesn't shy away from her financial success. "I am proud of my position as a boss, as a person that runs my own company," says Perry. "I'm an entrepreneur. ... I don't want to shy away from it. I actually want to kind of grab it by its balls."

That means going global. Of the 124 shows she played during our June-to-June scoring period for earnings, 75 of them took place abroad, spanning 27 different countries and four continents. Her hits translate—they're short on subtlety, long on universal appeal, with a focus on partying ("Last Friday Night"), love ("The One That Got Away") and celebration ("Birthday"). And her bright, breezy videos match: "Dark Horse" and "Roar" are the third- and fourth-most-watched YouTube videos of all time, with nearly 2 billion views between them worldwide.

So when Perry tours the world, her audience is already primed. She's averaged a staggering $20 per head per night in merchandise sales on the tour, according to her managers, about four times the industry's average. All in all, 60% of her total income now flows from outside of North America.

"She has a talent for reaching a very wide audience, and her themes resonate across cultures, race and gender," says Chuck Leavell, keyboardist for the Rolling Stones. "The music matches well with the lyrics, and the tunes are infectious. She is a true global artist."

Her success is even more impressive when you consider that industrywide annual album sales have plummeted from 785 million to 257 million over the past 15 years. Instead of grumping about Spotify like many of her fellow artists, she's simply adapted to the times. "Music has changed," she shrugs. "The record is that launching pad for all kinds of other creative branches."

Notably, hitting the road. According to a report by Ibisworld, live entertainment has been growing at an annualized rate of 4.7% over the past five years and is now a $25 billion business in the U.S. alone. International statistics are harder to come by, but 10 of the 38 musicians on the Celebrity 100 played shows in at least a dozen countries over the past 12 months.

The water is far safer now. Publicly traded Live Nation and billionaire-backed AEG have professionalized markets once dominated by local operators so sketchy that American acts often had to get their cash up front or risk not getting paid. There are more territories than ever in play: After the fall of the Berlin Wall opened up pop-loving eastern Europe in the early 1990s, modern NBA-style arenas rose across the Continent. More recently, fans in Asia and South America have grown prosperous enough to pay the Western-style ticket prices necessary to support big-budget arena shows. "Acts like Aerosmith are playing Paraguay," says Gary Bongiovanni, chief of touring-data outfit Pollstar. "Those were things that were unheard of years ago."

THE FIRST TIME I meet Perry, a few days before our Roman holiday, I'm greeted by Butters, her chocolate-colored hypoallergenic Cavalier poodle, who races around the Los Angeles office of Perry's managers as though it were her own private dog park.

Perry is managed by the triumvirate of Martin Kirkup, a U.K. na-

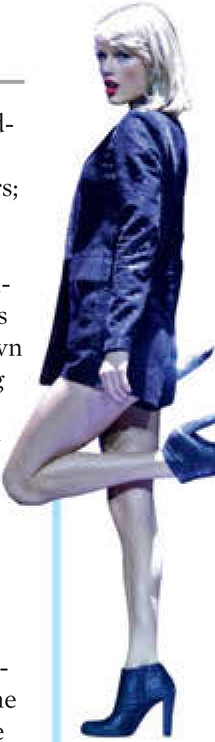
tive who focuses on marketing; Bradford Cobb, a Southerner who handles most of her music-related affairs; and industry veteran Steve Jensen, who concentrates on touring. A yellow-and-blue bedazzled football helmet emblazoned with Perry's initials hangs above the reception desk; down the hall a full-size surfboard bearing the words "Katy Perry Teen Choice 2010" leans on a wall next to a shiny pink-red-orange-and-yellow guitar the size of Shaquille O'Neal.

After about ten minutes Perry emerges from a meeting with Cobb and Jensen sporting a black-and-white Adidas track suit, hair pulled back into a ponytail. This is her uniform at home—if she wears the same outfit every day, she discovered, the paparazzi become less interested because their photos won't fetch as much from the gossip rags.

"I like to dress up and be Katy Perry when it's appropriate, when I'm promoting something," she explains, leading me into a conference room alone and hopping onto a semicircular white couch. "But I'm Katheryn Hudson on the business side."

Hudson is her real name. Born in Santa Barbara, Calif., Perry later took her mother's maiden name to avoid confusion with the actress Kate Hudson. Her parents, born-again Christian ministers who constantly relocated while preaching at different churches, had little money, and Perry recalls a stretch when the family ate exclusively from a food bank. Her parents' religious fervor was such that mentioning "the forces of evil" at home was forbidden. That meant no Lucky Charms cereal or even deviled eggs. Today they fully support her career, even if they don't love her songs or provocativeness. "There's a real agree-to-disagree vibe," says Perry.

CLOCKWISE FROM TOP LEFT: SASCHA SCHUERMANN/GETTY IMAGES; JOHN GURZINSKI/AFP/GETTY IMAGES; MATT CROSSICK/PA PHOTOS/LANDOV; NEWSCOM; PETER HAPAK/TRUNK ARCHIVE


TAYLOR SWIFT

CELEBRITY 100

For the first time our annual list is truly global, ranking the highest-paid entertainers from Hollywood to Bollywood over the last 12 months.

1 Floyd Mayweather
ATHLETE ***USA***
$300 mil

2 Manny Pacquiao
ATHLETE ***PHILIPPINES***
$160 mil

Filipino congressman's $125 mil payday for Mayweather bout was four times his previous high; also shills Nike, Foot Locker, Wonderful Pistachios.


MANNY PACQUIAO

3 Katy Perry
MUSICIAN ***USA***
$135 mil

4 One Direction
MUSICIANS ***U.K.***
$130 mil

Seven-figure nightly grosses on six continents helped the boy band more than double the Rolling Stones' earnings.

5 Howard Stern
RADIO ***USA***
$95 mil


ONE DIRECTION


FLOYD MAYWEATHER

6 Garth Brooks
MUSICIAN ***USA***
$90 mil

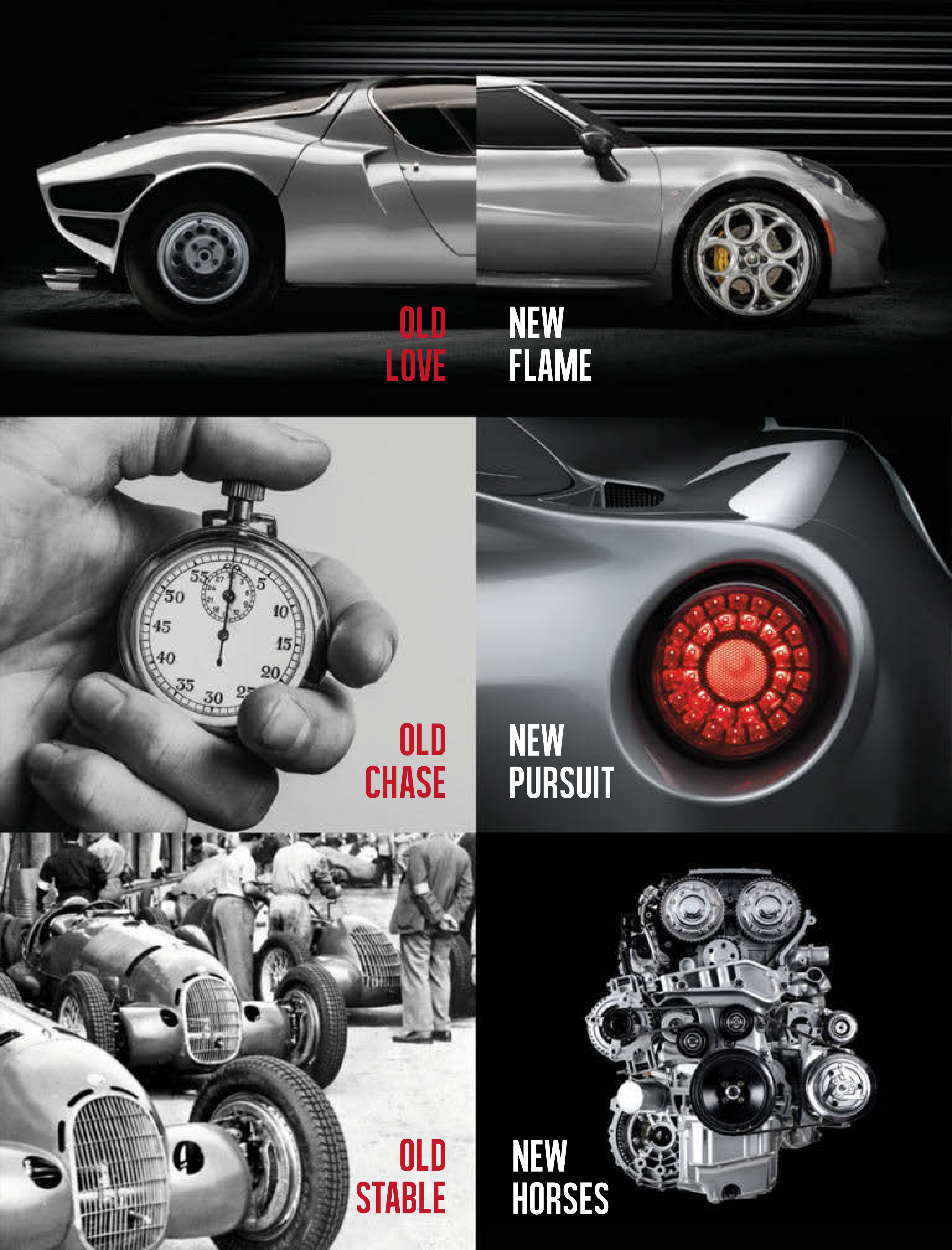
7 James Patterson
AUTHOR ***USA***
$89 mil

8 Robert Downey Jr.
ACTOR ***USA***
$80 mil

Iron Man scored career-high payday on back end of Avengers: Age of Ultron, *which grossed $1.4 bil worldwide.*

8 Taylor Swift
MUSICIAN ***USA***
$80 mil

Pop superstar's album 1989 *sold 3.7 mil copies in 2014, tops for the year; in May kicked off world tour with two sold-out shows in Tokyo.*


OLD
LOVE
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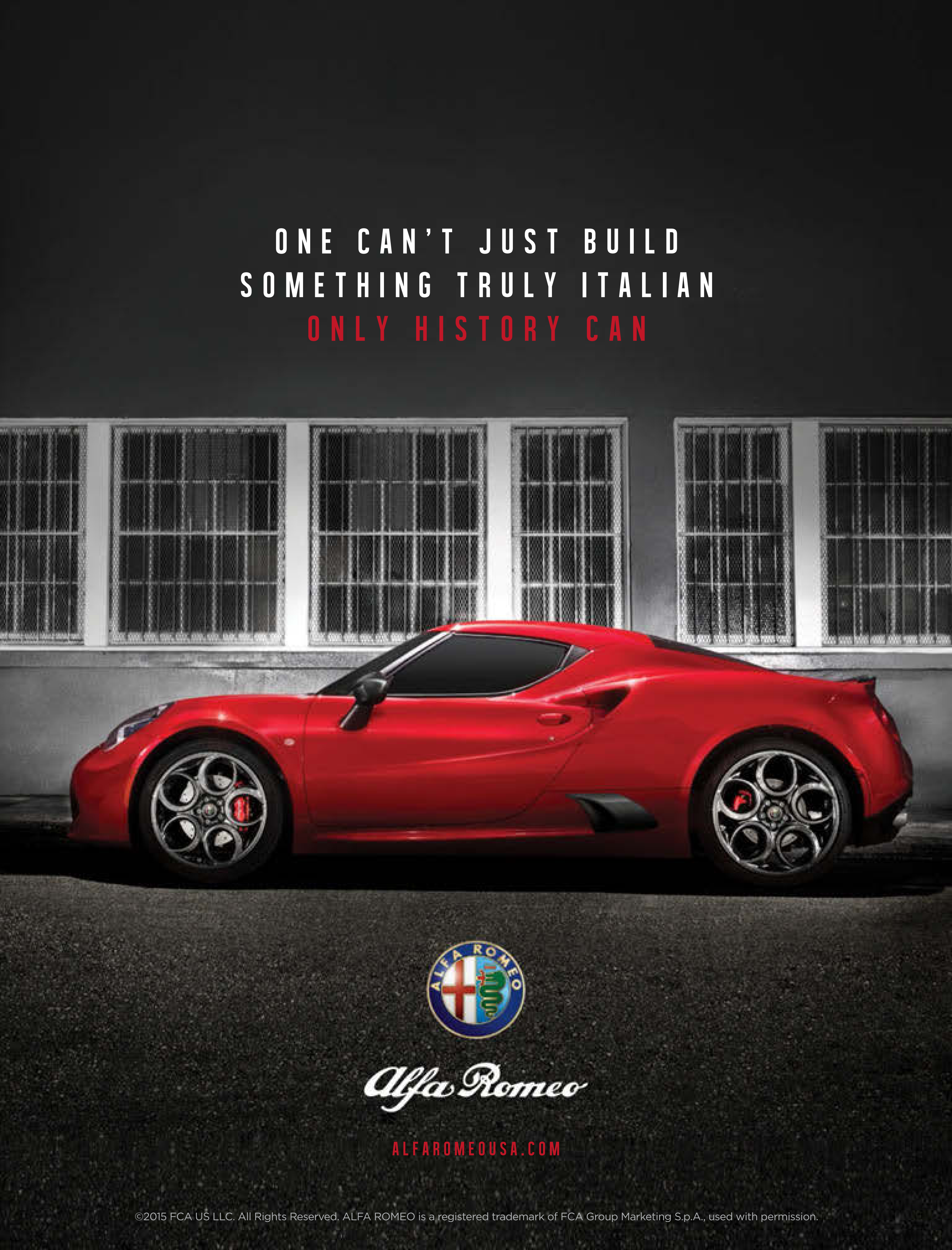
HORSES


ONE CAN'T JUST BUILD
SOMETHING TRULY ITALIAN
ONLY HISTORY CAN
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Katy Perry

SHE STARTED SINGING at 9 and picked up guitar four years later. Soon Perry was writing songs and busking for $20 a day at local farmers' markets; a member of her parents' church with ties to a Christian music label in Nashville took notice. She released her little-known 2001 debut, *Katy Hudson*, a Christian rock album that featured songs with titles like "Faith Won't Fail." The label folded shortly thereafter, along with her faith-based music career.

One year later a decreasingly pious but still teenage Perry got her first big break: a meeting with producer Glen Ballard, who co-wrote Michael Jackson's "Man in the Mirror" and discovered Alanis Morrissette. Perry's father drove her down to Ballard's Los Angeles home and waited in the car while she played him a song on her guitar. "I've been looking for you since I found Alanis," Perry remembers him saying. Adds Ballard: "Like other great artists, there was some *je ne sais quoi*, some intangible, that I knew instantly."

Ballard signed her to his boutique label and offered her a monthly stipend of about $1,000 to move to Los Angeles; her parents agreed, on the condition that she room with a Latin gospel artist they knew. She started writing songs with Ballard. Not long after that he took her to Paris, Tokyo and Hong Kong to play gigs at fashion shows and basement clubs. "We were getting better reactions outside of the U.S. than anywhere," says Ballard.

When she returned to Los Angeles, Perry stayed afloat by buying and selling clothes at local thrift shops and honed her skills at tiny clubs like Hotel Café. A gig there earned her an introduction to Cobb, who brought her to meet his partners in their office, where she made an introduction that immediately convinced them to manage her. "She began doing handrolls, head over heels," Kirkup recalls. "Arrived at my desk, did a split, held her hands up in the air and said,

Rising Star

KATY PERRY HAS EARNED $303 MILLION IN THE PAST FIVE YEARS—NEARLY HALF OF IT IN 2015.

SOURCE: FORBES.

CHINAFOTOPRESS/GETTY IMAGES

'Hi, I'm Katy!' "

Yet their attempts to jump-start her career went nowhere. Perry struggled to make ends meet, often getting smacked with overdraft fees by her bank; at one point her leased Volkswagen Jetta was repossessed, and her managers had to start advancing her money for rent.

Finally, in 2007, Perry found a home at Capitol Records. Despite her inexperience and desperation, she displayed uncanny business savvy—with the encouragement of her managers, she insisted on a music-only deal that left her in control of her touring and merchandise revenue. She also turned down a six-figure music publishing advance, electing to keep the underlying rights—and the potential for a greater payday down the line—for herself. In 2009 her strategy paid off with the release of "I Kissed a Girl," her first chart-topping single.

"People were talking about bisexuality a lot that year and also talking about sexuality being fluid," says Perry of the first of many songs her parents would surely not approve of. "It was zeitgeisty. It was me taking everybody's conversation and funneling it into a song. I also knew it had that 'ooh, ahh' factor. I knew I could open the most doors with that first, but I wasn't going to let that define me."

Other top-ten singles from her first album with Capitol included "Waking Up in Vegas" and "Hot N Cold." Then in 2010 she put out *Teenage Dream*, which has sold almost 6 million copies in the U.S. alone and launched five singles to No. 1 on the charts—a feat pulled off previously only by Michael Jackson.

Many of Perry's songs started taking off right around the time she launched her next tour. She played the 7,000-capacity Nokia Theater in Los Angeles before striking out for Europe and eventually Australia, all the while building up a following by playing intimate venues. By the time she returned to Los Angeles she was playing the 18,000-seat Staples Center, eventually sharing her life on the road in a 2012 documentary *Part of Me*, which served as a big-screen promotional video—and a profitable one at that (it grossed $33 million on a $6 million production budget).

Along the way Perry started to receive offers for all sorts of endorsement deals. She accepted a handful of seven-figure pacts, sticking to products she actually used: Proactiv, CoverGirl and Adidas. She released two fragrances, Killer Queen and Royal Revolution, for Coty (her next, Mad Potion, is due out later this year). She also took a page out of Ashton Kutcher's book, electing to take ownership positions instead of flat fees for shilling brands like Popchips. "One thing I've been able to do is know the power of having equity deals," she says. "I don't ever like to do things unless I'm really a part of them."

That long-term approach is already

paying off, especially when it comes to touring. Perry returned to Australia last November and grossed $40 million from 23 shows before moving on to the world's next great live market: China, where she played five concerts. "People appreciate when you come. ... They know how hard it is," she says. Indeed, China's National Orchestra invited her to a performance of "Roar" played on traditional instruments; the event was broadcast on state-run CCTV, which boasts a viewership of more than 1 billion people.

While many acts treat their burgeoning international legs as logistical burdens, Perry, whose formal education ended with a GED at age 15, tries to turn her tours into education extensions, whether the Colosseum in Rome, the British Museum in London or the Renaissance paintings of Florence. "I'm not one that stays in my hotel room," says Perry. Adds Cobb: "She wants to learn. And she doesn't care if it's an embarrassing question."

The underlying insecurity that comes when your educational credentials don't match up with your inherent smarts can be a compelling motivator. It can explain why she sits through business meetings and sifts through the professional minutiae other stars would delegate and why, despite her swagger and success and sex symbol appeal, she can seem the most flattered when people talk business with her. "You're calling me interesting," she says to me at one point. From the softness of her tone you'd think I'd just given her the greatest compliment she'd ever received.

YOU PROBABLY SAW the moment when Katy Perry ascended to icon status: this past Feb. 1, when she rode into the middle of University of Phoenix Stadium on an audio-animatronic lion for a 12-minute, four-outfit performance that generated as much buzz as the Super Bowl itself, down to the "Left Shark" meme spawned by the lackadaisical performance of a dancer in a predator suit.

Perhaps the most surprising part about the show and its aftermath is the fact that Perry didn't have a specific product to sell (though she tried trademarking Left Shark). Unlike many recent halftime headliners, there was no new album or U.S. concerts to push—she'd already wrapped up the North American leg of her tour, and most of her international dates were sold out.

What it was, Perry realized from the onset, was a branding moment. "It took her from being a big star to the stratosphere," says Jensen. He reports that since the Super Bowl, Perry's team has been receiving about two to three big-ticket business opportunities a week from endorsements to joint ventures to movie roles, nearly double what she was getting last year. She still turns down the vast majority of them, but occasionally one strikes her fancy and she takes the plunge. This fall she'll debut an eponymous mobile app via Glu, the startup that created Kim Kardashian's wildly successful game; for her efforts she'll receive a seven-figure advance and share in the revenues. She also became the face of fashion brand Moschino's new line, and filmed a commercial for Toyota in Thailand.

There are other perks to being in the stratosphere. "I don't feel like my career is a ticking time bomb," says Perry. "I don't feel like I'll always have to be feeding the meter of show business. I got my spot, yo."

That means Perry, who has been striving endlessly since she was a teenager, can "park for a minute." As her tour winds down, she's building in some vacation time "to live life and have life experiences that influence my music." And fittingly for this woman who hadn't left North America until she was old enough to vote, that means trips to Peru (she wants to see Machu Picchu) and Cuba—the kind of places that should keep her on the Celebrity 100 for years to come. F

IAN MACNICOL/GETTY IMAGES (ABOVE); CHELSEA LAUREN/GETTY IMAGES

10 Cristiano Ronaldo
ATHLETE ***PORTUGAL***
$79.5 mil

11 Rush Limbaugh
RADIO ***USA***
$79 mil

12 Ellen DeGeneres
PERSONALITY ***USA***
$75 mil

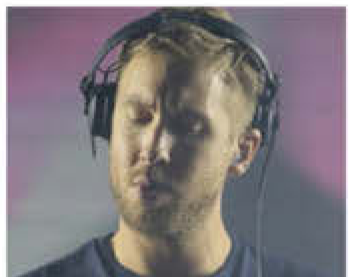
13 Lionel Messi
ATHLETE ***ARGENTINA***
$74 mil

Barcelona gave four-time FIFA Player of the Year a $9 mil raise, bringing take-home pay to $50 mil a year through 2018.

14 The Eagles
MUSICIANS ***USA***
$73.5 mil

15 Dr. Phil McGraw
PERSONALITY ***USA***
$70 mil

16 Roger Federer
ATHLETE ***SWITZERLAND***
$67 mil



17 Calvin Harris
MUSICIAN ***U.K. (SCOTLAND)***
$66 mil

Scottish deejay played 86 gigs in our scoring period, riding six-figure fees to perch as highest-paid EDM artist for third consecutive year.

18 LeBron James
ATHLETE ***USA***
$65 mil

19 Justin Timberlake
MUSICIAN ***USA***
$63.5 mil

20 David Copperfield
MAGICIAN ***USA***
$63 mil

CONTINUED ON PAGE 74

Ramsay's Rule

Vituperative British chef Gordon Ramsay has become Fox's biggest reality star—the best marketing plan ever for a global restaurant empire.

BY ABRAM BROWN

It's two hours until shooting wraps on *MasterChef Junior*'s fourth season, the celebratory champagne already chilling in plastic buckets in a dark, windowless studio in Burbank, Calif., yet chef Gordon Ramsay, dressed in a slim blue suit, has business to attend to. The show's executive producer and star, world-famous for his profanity and anger, is about to name a winner for his child-cooks competition—and send a pint-size runner-up home disappointed. "I hate that bit," he says.

Once the cameras roll, Ramsay gives the sub-14-year-old loser a big hug. The man who once responded to a request for more pumpkin on a

PHOTOGRAPH BY JILLIAN EDELSTEIN FOR FORBES

CELEBRITY 100

21 Diddy
MUSICIAN ***USA***
$60 mil

21 Gordon Ramsay
CHEF ***U.K. (SCOTLAND)***
$60 mil

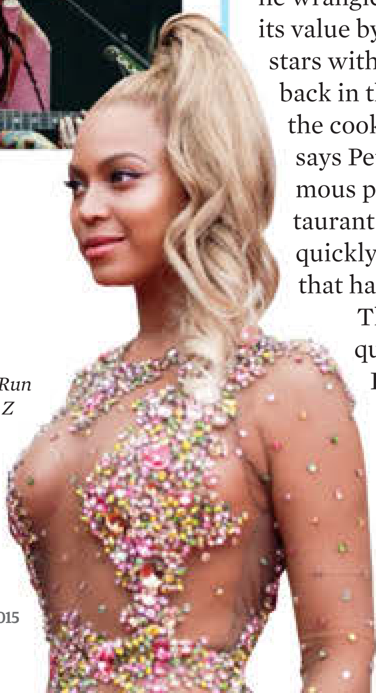
21 Ryan Seacrest
PERSONALITY ***USA***
$60 mil

24 Fleetwood Mac
MUSICIANS ***U.K. + USA***
$59.5 mil
The group's On With the Show tour included 86 dates in our scoring period; average secondary ticket price was year's highest at over $350.

25 Lady Gaga
MUSICIAN ***USA***
$59 mil
Boundary-pushing diva grossed $1.8 mil per night in cities from Denver to Dubai on latest tour.

26 Rolling Stones
MUSICIANS ***U.K.***
$57.5 mil

27 Ed Sheeran
MUSICIAN ***U.K.***
$57 mil
Twenty-four-year-old singer-songwriter played 154 shows in 12 months, more than any act on the Celebrity 100.



28 Jay Z
MUSICIAN ***USA***
$56 mil

29 Beyoncé
MUSICIAN ***USA***
$54.5 mil
Last summer's On the Run tour with husband Jay Z grossed over $100 mil, capped by a pair of shows in Paris last fall.

Gordon Ramsay

dish by offering to stuff the ingredient up the customer's, eh, cavity has created a sugary, made-for-TV moment. And another huge payday. If playing against type necessitates that, so be it.

Ramsay, 48, is a formidable chef and an engaging television presence. But he's above all a capitalist, taking in $60 million last year, good enough for a No. 21 ranking on the Celebrity 100—and what we believe to be the highest-ever haul for a celebrity toque. With *American Idol* fading, his four shows—*Hell's Kitchen, Hotel Hell*, *MasterChef* and *MasterChef Junior*—make him Fox's biggest reality TV star. His 26 restaurants across the U.S., Europe, Asia and the Middle East bring in millions, despite the fact that his schedule makes it highly unlikely you'll see Ramsay manning the stove on any given night. "I have more money than I'll ever need," he says.

At the root of the Ramsay brand is credibility—important when you're flaying people on TV and serving up a tasting menu of foie gras, lobster ravioli and pigeon that starts at $230. He apprenticed with Europe's best—Marco Pierre White, Joël Robuchon, Guy Savoy—before becoming, at 26, head chef at a new London restaurant, Aubergine. Even then he was thinking equity—he wrangled a 25% stake and ran up its value by delivering two Michelin stars within three years. "The joke back in the early '90s was that all the cooks in hell were British," says Peter Harden, the eponymous publisher of a British restaurant guide. "But Aubergine quickly became the kind of place that had a six-week waiting list."

That wasn't enough. He quit and in 1998 opened Restaurant Gordon Ramsay with his father-in-law, Chris Hutcheson. This one nailed three stars, the highest rating Michelin bestows, which allowed him to charge the kind of prices that juice margins as high as 25% on $5 million in revenue. He followed up with outlets in Glasgow, Tokyo, Dubai and New York City.

Meanwhile, a BBC documentary series, *Ramsay's Boiling Point*, about the first days at Restaurant Gordon Ramsay, put a spotlight directly on Ramsay's explosive behavior in the kitchen. (Typical scene: He chews out a maître d' for his failing efforts at examining the air-conditioning: "Are your brains in your f—king ass?") Audiences couldn't get enough. And, as with his kitchen, rather than work for someone else, he'd do it himself.

In 2004 he debuted the British version of a cooking boot camp, *Hell's Kitchen,* with a deal that gave him a cut of the show's distribution sales. A U.S. version featuring wannabe home cooks instead of C-list celebrities hit the small screen in 2005. *Kitchen Nightmares* debuted two years later, with Ramsay parachuting into failing restaurants in profanity-laced attempts to save them. It clocked 3.1 ratings (8 is the top)—hardly the Super Bowl but unprecedented for a cooking show. "It took us until this era to really make food on TV more interesting," says Arthur Smith, a longtime producing partner and early supporter of Ramsay, "and it took someone like Gordon Ramsay to really push it over the top."

Not everything was going as well. The Great Recession cut appetites for elaborate tasting menus and thinned the herds of pin-striped bankers who ate at his restaurant empire. His holding company accumulated more than $30 million in debt by 2010—two-thirds of which was a personal loan from Ramsay—a nearly tenfold increase in eight years. The chef blames his father-in-law, whom he fired in 2010, part of a "very ugly family fight," according to Hutcheson. Hutcheson steadfastly denies any wrongdoing, and their enmity led them into the

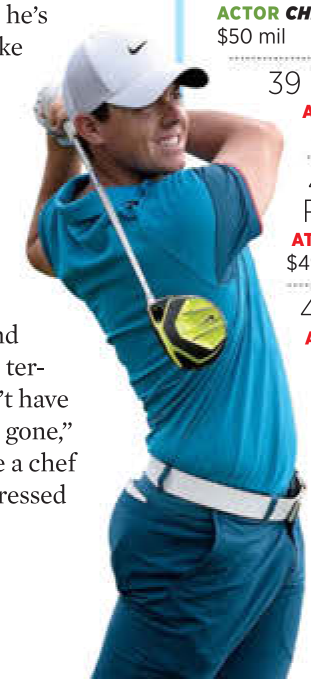
FROM TOP: NOAM GALAI/GETTY IMAGES; SPLASH NEWS/NEWSCOM; MARK HORTON/GETTY

courtroom repeatedly, both trading legal blows and both claiming victory.

Despite the setbacks, Ramsay's restaurants have rebounded, thanks to a better economy—and the endless marketing furnished by his television shows. As the only thing Fox's non-scripted slate has going for it, Ramsay can generate a big payday: more than $400,000 an episode (he won't comment on the figure, which is at least 15 times what a Food Network star can expect). Since he's the executive producer of his shows, he can stack the shooting schedule to fit his calendar. He wants to create a scripted show next, perhaps dramatizing the kitchen the way *Entourage* glorified the talent agency office.

And even after closing nine restaurants and selling three during his family feud, he has more restaurants today than ever before: 26 versus 20 in 2010. Those restaurants generate $150 million in revenue, a 270% increase from five years earlier, including new outposts in Asia, the Middle East and Atlantic City, N.J. Part of his international expansion focuses on restaurants modeled after his Bread Street Kitchen in London, a place having more in common with a big, jubilant brasserie than the fine-dining restaurants that made him famous (and that he still maintains in England). While he isn't ruling out owning new restaurants, he's been focusing on deals like the ones he has in Las Vegas, where he manages—and lends his fame—to a burger joint, a steak house and a pub. In return he gets 6% to 9% of revenue and 10% to 15% of earnings. A no-lose situation and the kind that might lead a famous terror to hug a child. "I don't have bad days. Those days are gone," he shrugs. "Do I look like a chef who's running around stressed as f—k?" F

FROM TOP: BILLY FARRELL/BFA/NEWSCOM; NELSON ALMEIDA/AFP/GETTY IMAGES; DIMITRIOS KAMBOURIS/GETTY IMAGES; DIMITRIOS KAMBOURIS/VF15/GETTY IMAGES; PHELAN



CELEBRITY 100

30 Kevin Durant
ATHLETE ***USA***
$54 mil

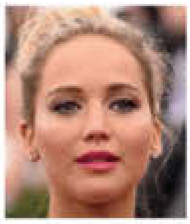
31 Elton John
MUSICIAN ***U.K.***
$53.5 mil

32 Toby Keith
MUSICIAN ***USA***
$53 mil

33 Kim Kardashian
PERSONALITY ***USA***
$52.5 mil

Reality star nearly doubled 2014 earnings thanks to create-your-own-celebrity mobile game.

34 Jennifer Lawrence
ACTRESS ***USA***
$52 mil



Negotiated very favorable profit share on latest Hunger Games *film, which grossed $752 mil at worldwide box office—and made Lawrence Hollywood's top-earning woman.*

35 Paul McCartney
MUSICIAN ***U.K.***
$51.5 mil

36 Phil Mickelson
ATHLETE ***USA***
$51 mil

37 Tiger Woods
ATHLETE ***USA***
$50.5 mil

38 Jackie Chan
ACTOR ***CHINA***
$50 mil

39 Kobe Bryant
ATHLETE ***USA***
$49.5 mil

40 Ben Roethlisberger
ATHLETE ***USA***
$49 mil

41 Rory McIlroy
ATHLETE ***U.K. (N. IRELAND)***
$48.5 mil

World's top-ranked golfer scored $16.3 mil in prizes and replaced Tiger Woods as face of Electronic Arts golf videogame.

42 Novak Djokovic
ATHLETE ***SERBIA***
$48 mil

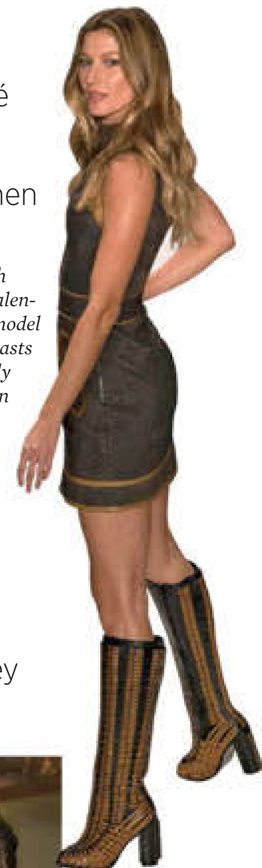
43 Judy Sheindlin
PERSONALITY ***USA***
$47 mil

43 Vin Diesel
ACTOR ***USA***
$47 mil

45 Michael Bublé
MUSICIAN ***CANADA***
$45.5 mil

46 Gisele Bündchen
MODEL ***BRAZIL***
$44 mil

In addition to contracts with Chanel, Emilio Pucci and Balenciaga, world's top-earning model shills Under Armour and boasts her own line of Brazilian jelly sandals and Gisele Bündchen Intimates lingerie.



47 Jason Aldean
MUSICIAN ***USA***
$43.5 mil

48 Luke Bryan
MUSICIAN ***USA***
$42.5 mil

49 Kenny Chesney
MUSICIAN ***USA***
$42 mil

50 Bradley Cooper
ACTOR ***USA***
$41.5 mil

Oscar-nominated American Sniper *raked in almost $550 mil at the global box office since it went into wide release in January.*

51 Adam Sandler
ACTOR ***USA***
$41 mil

CONTINUED ON PAGE 79

Big Bucks For Big Brother

The most powerful person in the Chinese film industry? Martial arts legend Jackie Chan, who has combined a government perch with a capitalist's attitude to make himself extremely rich.

BY ZACK O'MALLEY GREENBURG

Ensconced in one of the most expensive suites in Beverly Hills, at the Montage Hotel, action movie star Jackie Chan seemingly wants to talk about how frugal he is. Decked out in a Jackie Chan-branded shirt emblazoned with his trademark dragon logo, he leads me into the master bathroom of his hotel suite and removes a worn bar of soap from a plastic bag, explaining that he took it from his room at the MGM Grand in Macau instead of wastefully discarding it: "This soap follows me around the world."

Chan's intended message is that he's a conservationist—he's lately been recording scads of public service announcements aimed at discouraging Chinese consumers from buying

STYLED BY JOSEPH DEACETIS; GROOMING BY VERONICA SINCLAIR.

Photographed by Ethan Pines for FORBES on location in Beverly Hills. Jackie Chan wears a gray cotton pinstripe blazer, white linen polo shirt and trousers; all by Paul & Shark.

products made from poached tigers and rhinos. But the real metaphor within this bar of soap is how it—and, more specifically, Chan—straddles the U.S. and China.

Once ubiquitous in Hollywood, Chan hasn't had an American live action hit in five years. Yet he's earned an estimated $50 million over the past 12 months, more than any actor in the world besides Robert Downey Jr. and enough to land him the No. 38 spot in the FORBES Celebrity 100, right behind Tiger Woods.

What gives? He's one of a select few with a true grasp of the fundamentals of the film business on both sides of the Pacific—and he's using that knowledge, at age 61, to cut shrewd deals.

Take the film *Dragon Blade*. Never heard of it? Makes sense: It hasn't been released in the U.S. yet, despite the presence of well-known costars Adrien Brody and John Cusack. But it was a huge deal in China—grossing $120 million—and Chan, the film's lead, cut himself a back-end deal that likely made him more than $10 million. Later this year he'll star opposite Johnny Knoxville in *Skiptrace*, an East-West coproduction that has potential in both the U.S. and China—and which Chan owns an outsize chunk of, based on his roles as actor and investor.

Meanwhile, he controls enough brand extensions to make Jay Z jealous—yes, Chan-branded merchandise, no small business when you're the best-known martial artist since Bruce Lee—and also a Segway dealership and a cinema chain that bears his name. Between all the acting and all the owning, FORBES estimates Chan has amassed a net worth of some $350 million. Chan and his team declined to comment on specific figures.

"Jackie Chan is basically the Mickey Mouse of Chinese culture, a celebrity who is so omnipresent that his name has become shorthand," says Grady Hendrix, cofounder of the New York Asian Film Festival.

Since business success in China ultimately revolves around navigating or benefiting from the government, Chan has a secret weapon in all this earning: membership in the Chinese People's Political Consultative Conference, a hugely influential government board. Beijing green-lights all films released in China.

It's an increasingly powerful position. Chinese cinemas have grown at a nearly 33% rate over the past five years, generating just shy of $5 billion in 2014; in February China's monthly box office receipts actually surpassed those in the U.S. And while an American blockbuster can gross a quarter-billion dollars in China, the country's powers-that-be often institute weeks-long blackouts of foreign films or slot them against one another on opening weekends. As a result Hollywood is turning to coproductions with Chinese companies, with *Transformers: Age Of Extinction* and *Iron Man 3* among the most successful examples.

All of which puts Jackie Chan right in the middle—a man known to his adoring countrymen as "Big Brother." Without irony.

"I ALWAYS LOOK AT THE MAP," says Chan, outlining an imaginary globe. "Why this side is yours, this side is mine? Who designed the boundary? I think the world belongs to us. America belongs to me. China belongs to you."

Chan's upbringing is consistent with such global platitudes. He was born in U.K.-controlled Hong Kong in 1954. His parents worked in the kitchen of the French embassy there before decamping for Australia. He later learned his father had been a spy for Taiwan.

Chan was sent to a performing arts boarding school in Hong Kong where he studied martial arts and acrobatics under teachers as merciless as a silver screen kung fu master. "You make a mistake, everybody get hit," he recalls. "Sometimes they hit me for no reason." He spent the years after high school bouncing between construction jobs in Australia and failed attempts to bust into the movies in Hong Kong. At 20, just as he got a telegram about a role in a new film, his parents gave him two final years to make his movie mark—an ultimatum that became irrelevant after he landed a bit part in the 1973 Bruce Lee classic *Enter the Dragon*.

Chan's first challenge was to distinguish himself from Lee. To do so he developed a personal style totally different from the legend to whom he's most often compared. Whereas Lee was known for his grim demeanor and precise moves, Chan studied Charlie Chaplin and Buster Keaton, honing his humor and adopting a slapstick approach. "I wanted everybody to follow me," says Chan, "I don't want to follow everyone."

Chan churned out Hong Kong hits, performing his own stunts and breaking dozens of bones (he nearly died after falling out of a tree in Yugoslavia while filming the 1986 action flick *Armour of God*, which he wrote, directed and starred in). When China opened up in the 1990s, Chan was poised to profit, launching cafes, gyms and a successful singing career. In 1998 he started Jackie Chan Design, whose website currently peddles more than 400 different items from water bottles to watches—and claims all items "are designed exclusively by Mr. Jackie Chan."

Starting with 1995's *Rumble in the Bronx*, Chan became a household name in America, too. With 1998's *Rush Hour*, costarring Chris Tucker, he became a global star—that movie had the most successful opening weekend for a comedy in history up to that point, eventually grossing $140 million in the U.S. and another $100 million abroad. Though such a domestic-international split is typ-

ical these days, it was much rarer at the time. Recalls Chan: "The American box office was the whole-world box office." Adds director Brett Ratner, "Jackie Chan is the greatest export China has."

He parlayed that success into lucrative roles in other franchises like *Shanghai Noon* and *Kung Fu Panda*, while extending *Rush Hour* to three films (Ratner is now pushing for a fourth). But unlike, say, Arnold Schwarzenegger, who left Austria to become a quintessential American and never looked back, Chan always held tight to his Chinese fans, returning to Hong Kong to make the sort of films upon which he'd built his reputation, while also taking on more serious roles. "I wanted to be an Asian Robert De Niro or Dustin Hoffman," says Chan.

He found a willing ally in the Chinese authorities, who recruited him to be an ambassador for the 2008 Olympics, and Chan soon moved his operations from Hong Kong to Beijing. Once domiciled there, he found himself at the epicenter of the burgeoning Chinese film industry—and the government that controls it.

Though Chan insists he must jump through the same hoops as any other filmmaker, there's little doubt he's got a better chance at getting movies made than most, as shown by recent examples like *Skiptrace*. "Because of the approval process and getting guaranteed distribution," says Chan's agent, Philip Button, "it was one of those opportunities that we worked on together, and it was a success."

Chan's closeness with Beijing—along with his occasional derisive comments about dissent in Hong Kong ("The authorities should stipulate what issues people can protest over")—has earned him the scorn of democracy advocates like Emily Lau, chairperson of the Democratic Party in Hong Kong. "If you are someone who'll always do and say what the authorities want," she says, "maybe it's easier for them to approve your ventures."

Chan bristles at the criticism. "Should I not be close to Chinese government?" he asks when I broach the subject, raising his voice. "We are Chinese! ... I think everybody should love your country." He argues that he's helping shape an increasingly crucial part of the economy, such as through a recent recommendation to lower import taxes on movie equipment. "It's a suggestion of how to improve the film industry," he says. "They listen."

THERE ARE ABOUT 20,000 movie screens in China, roughly half the number as in the U.S., despite having more than four times as many people. "If they had 45,000 screens," says Ratner, "with their population a movie opening in China could do $500 million in a weekend."

Chan is already cashing in on that math. Five years ago he and a partner built the Jackie Chan Yaolai International Cinema, a 17-screen multiplex in Beijing that now sells 50,000 tickets on big weekend days. That success led to a 50/50 joint venture to create 37 more theaters bearing Chan's name, each with a stand selling the actor's merchandise.

Chan is also expanding his J.C. Stunt Team into a film-services company that matches American studios with bilingual crew members in China, from stunt coordinators to assistant directors. "I slowly want to build a William Morris," he says.

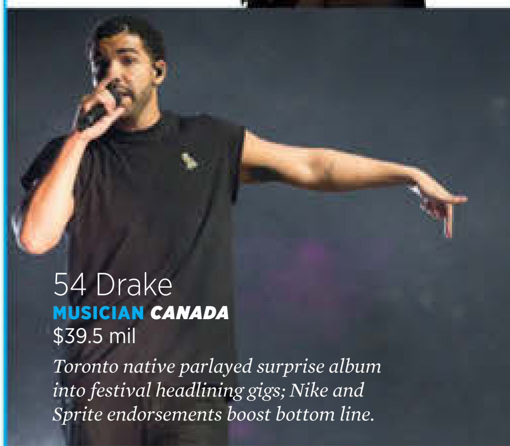
In the meantime, he'll keep betting on Chinese films and American coproductions. "Now, I'm not only the actor. ... I invest," he says, and while he won't confirm our estimate of his earnings for this year, he's happy to speculate on future projects with the confidence of a casino owner who knows the odds are stacked in his favor. "I might lose $10 million," he says. "But if I win, probably $90 [million]." F

FROM TOP: TIM MOSENFELDER/GETTY IMAGES; DANIEL DESLOVER/ZUMA PRESS/NEWSCOM; FRANCK FIFE/AFP/GETTY IMAGES


BRUNO MARS

52 Tom Cruise
ACTOR ***USA***
$40 mil

52 Bruno Mars
MUSICIAN ***USA***
$40 mil
Wrapped up Moonshine Jungle tour and lent his voice to "Uptown Funk," which spent 14 straight weeks at No. 1 on the charts.



54 Drake
MUSICIAN ***CANADA***
$39.5 mil
Toronto native parlayed surprise album into festival headlining gigs; Nike and Sprite endorsements boost bottom line.

55 Zlatan Ibrahimović
ATHLETE ***SWEDEN***
$39 mil
Soccer star led Paris Saint-Germain to French title; application for U.S. work visa fueled speculation of a move to MLS.

55 Lewis Hamilton
ATHLETE ***U.K.***
$39 mil

57 Ndamukong Suh
ATHLETE ***USA***
$38.5 mil

58 Tim McGraw
MUSICIAN ***USA***
$38 mil

58 Foo Fighters
MUSICIANS ***USA***
$38 mil

60 David Guetta
MUSICIAN ***FRANCE***
$37 mil

61 Florida Georgia Line
MUSICIANS ***USA***
$36.5 mil

CONTINUED ON PAGE 82


ZLATAN IBRAHIMOVIC

STYLING BY JOSEPH DEACETIS; GROOMING BY ROXY D'ALONZO

Film's Future Face

Brawny, brainy and racially ambiguous, Vin Diesel is exactly what global movie audiences want to see these days. And he's cashing in.

BY NATALIE ROBEHMED

Twenty years ago Vin Diesel couldn't get a role in Hollywood, a plight so comical that he made a semiautobiographical short about it. In it the young, bronzed Diesel gets turned down for a beer commercial by an African-American director. "I'm going to be honest with you—you're a little too light," he says, before encouraging him to pursue Hispanic roles. Cut to his next audition. Another actor screams at him in Spanish. Diesel is silent. *No habla español*. And so on, down to the Italian roles. Funny, but personally painful, too. "It was very hard to have Hollywood look past the ambiguity of me," he says. "Little did I know it wasn't my time yet. The world wasn't ready for a

Photographed by Jamel Toppin for FORBES at the St. Regis Atlanta. Vin Diesel wears a gabardine jacket, handmade dress shirt, jeans and handmade pocket square, all by Kiton.

multicultural megastar."

Now it clearly is. What was once Diesel's Achilles' heel has become his greatest strength. As U.S. and Canadian box office declines—down 5% to $10.4 billion between 2013 and 2014—the global film market continues to grow, notably in China, which jumped 34% to $4.8 billion. An increasingly international ticket booth needs stars that can cross borders.

Diesel, 47 (birth name: Mark Sinclair), can do just that. He's brawny, brainy, multiethnic and racially ambiguous, an action star who's visually relatable to many international audiences at once—the movie star of the future. With its multicultural cast, his latest, Universal Pictures' *Furious 7,* is the fourth-highest-grossing film ever, pulling in $1.5 billion, 77% of that beyond the borders of the United States. The franchise's total ticket revenue now nears $4 billion—$1 billion more than *Lord of the Rings*. Diesel himself banked an estimated $47 million in the last 12 months before taxes and fees, No. 43 on this year's list of the world's top-earning celebrities and third among all actors—just behind Robert Downey Jr. and Jackie Chan, and way ahead of heavyweight names like Bradley Cooper, Tom Cruise and Adam Sandler.

"The whole point [of *The Fast and the Furious*] was to diversify Hollywood and in some ways change the face of Hollywood," says Diesel, speaking in his deep, deliberate growl. Raised in Manhattan in artist housing by his Caucasian mother and African-American stepfather, who taught acting at Brooklyn College, Diesel started performing at 7. Before long he was break-dancing on the subway and in New York's Washington Square Park to earn cash.

Diesel says he's not precisely sure of his ethnic background. (He dubbed his production company One Race.) All the better now, but after over a decade of rejections he didn't think he'd get out of the 1990s in the business—until Steven Spielberg gave him a role in the 1998 Academy Award-winning *Saving Private Ryan*.

Soon the studios came knocking, and in 2001 he hit the big time with the original *The Fast and the Furious*. It clocked $207 million on a $38 million budget, launching a multifilm franchise that Diesel originally walked away from. "When I got the script to the second one, my fears were confirmed," he remembers.

Diesel turned down the sequel but says he agreed to a cameo for the third movie on the condition that he would get to produce any future *Fast and Furious* films. (Diesel is listed as a producer on every *Fast and Furious* from 2009's fourth installment onward, meaning he gets a say in the scripts and a larger cut of the film's back end—an estimated $25 million for *Furious 7*.) Showing some serious showbiz savvy, he also parlayed the bit part to grab from Universal the rights to the Riddick character he'd played in the 2000 sci-fi flick *Pitch Black*. "I got two franchises out of doing four hours' worth of work," Diesel remembers gleefully.

Under his brawny fist 2013's *Riddick* went on to gross $98 million at the box office and $25 million in DVD sales, with Diesel taking home an estimated $10 million. *Furious 7* would go on to gross 15 times that, edging the franchise's total past the *Jurassic Park* and *Bourne* series.

Not bad for a guy who didn't break into Hollywood until his mid-30s. So how does he want to be remembered? Diesel pauses and looks down, silent for ten long seconds. When he finally looks up, he's almost teary. "The person who brought multiculturalism to the world through my existence." And made a bundle in the process. Ⓕ

62 Tiësto
MUSICIAN ***NETHERLANDS***
$36 mil

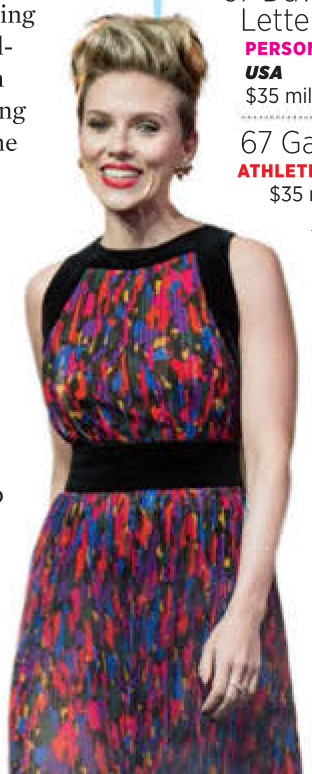
Forty-six-year-old still outearns deejays half his age thanks to 6-figure nightly fees and equally outrageous work ethic, playing over 100 shows during our scoring period. Also fattens pockets hawking Guess and Mountain Dew.

62 Jimmy Buffett
MUSICIAN ***USA***
$36 mil

62 Jerry Seinfeld
COMEDIAN ***USA***
$36 mil

65 Scarlett Johansson
ACTRESS ***USA***
$35.5 mil

Proved she could carry an action movie with Lucy, *which grossed $459 mil worldwide; now commands north of $10 mil per film.*



65 Fernando Alonso
ATHLETE ***SPAIN***
$35.5 mil

67 David Letterman
PERSONALITY ***USA***
$35 mil

67 Gareth Bale
ATHLETE ***U.K. (WALES)***
$35 mil

Former Tottenham star may be on way home 2 years after Real Madrid spent $118 mil to acquire him; inked 6-year Adidas contract in 2014 worth an estimated $35 million.

69 Jon Lester
ATHLETE ***USA***
$34 mil

69 Derrick Rose
ATHLETE ***USA***
$34 mil

71 Amitabh Bachchan
ACTOR *INDIA*
$33.5 mil

Bollywood legend's half-century career includes 150 starring roles; still earns top rupee for flicks like 2014's Bhoothnath Returns.

71 Salman Khan
ACTOR *INDIA*
$33.5 mil

73 Sebastian Vettel
ATHLETE *GERMANY*
$33 mil

73 Maroon 5
MUSICIANS *USA*
$33 mil

73 Dr. Dre
MUSICIAN *USA*
$33 mil

76 Rafael Nadal
ATHLETE *SPAIN*
$32.5 mil

Injuries bounced prize money from $10 mil to $4.5 mil, but reputation won new deals with Tommy Hilfiger and Telefonica, while Kia Motor renewed for 5 more years.

76 Akshay Kumar
ACTOR *INDIA*
$32.5 mil

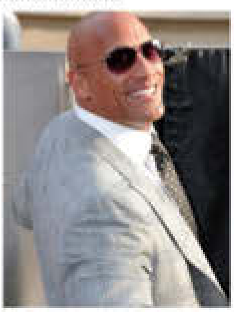
78 Pharrell Williams
MUSICIAN *USA*
$32 mil

78 Mark Wahlberg
ACTOR *USA*
$32 mil

78 Zac Brown Band
MUSICIANS *USA*
$32 mil

81 Dwayne Johnson
ACTOR *USA*
$31.5 mil

Played lead in disaster film San Andreas, *which rumbled to $420 mil worldwide.*

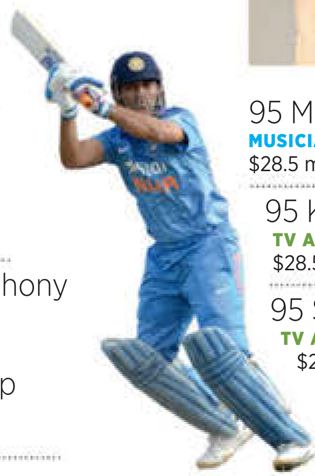


82 Eminem
MUSICIAN *USA*
$31 mil

82 Britney Spears
MUSICIAN *USA*
$31 mil

82 Mahendra Dhoni
ATHLETE *INDIA*
$31 mil

Cricket captain's career is wrapping up, but upcoming biopic has already netted him $3 mil.



82 Neymar
ATHLETE *BRAZIL*
$31 mil

86 Carmelo Anthony
ATHLETE *USA*
$30.5 mil

87 Johnny Depp
ACTOR *USA*
$30 mil

88 Maria Sharapova
ATHLETE *RUSSIA*
$29.5 mil

Makes much more off the court than on: endorsements include Avon, Samsung, Tag Heuer and Evian; sold more than 3 million bags of her Sugarpova candy, doubling last year's figure.

89 Leonardo DiCaprio
ACTOR *USA*
$29 mil

89 Channing Tatum
ACTOR *USA*
$29 mil

89 Sean Hannity
RADIO *USA*
$29 mil

89 Jim Parsons
TV ACTOR *USA*
$29 mil

89 Carson Palmer
ATHLETE *USA*
$29 mil

89 James Rodríguez
ATHLETE *COLOMBIA*
$29 mil

95 Jennifer Lopez
MUSICIAN *USA*
$28.5 mil

95 Miranda Lambert
MUSICIAN *USA*
$28.5 mil

95 Kaley Cuoco-Sweeting
TV ACTRESS *USA*
$28.5 mil

95 Sofía Vergara
TV ACTRESS *COLOMBIA*
$28.5 mil

Multimillion-dollar endorsements and mid-6-figure payouts for Modern Family *episodes secure her spot as TV's top-paid actress.*

95 Blake Shelton
MUSICIAN *USA*
$28.5 mil

95 Kevin Hart
COMEDIAN *USA*
$28.5 mil

ABOUT THE LIST

This year's Celebrity 100 ranks "front of the camera" talent worldwide by their earnings from June 1, 2014 to June 1, 2015 before subtracting management fees and taxes. Our figures are based on interviews with agents, managers, lawyers—and many of the stars themselves. Additional sources: Nielsen, Pollstar, Box Office Mojo and IMDB.

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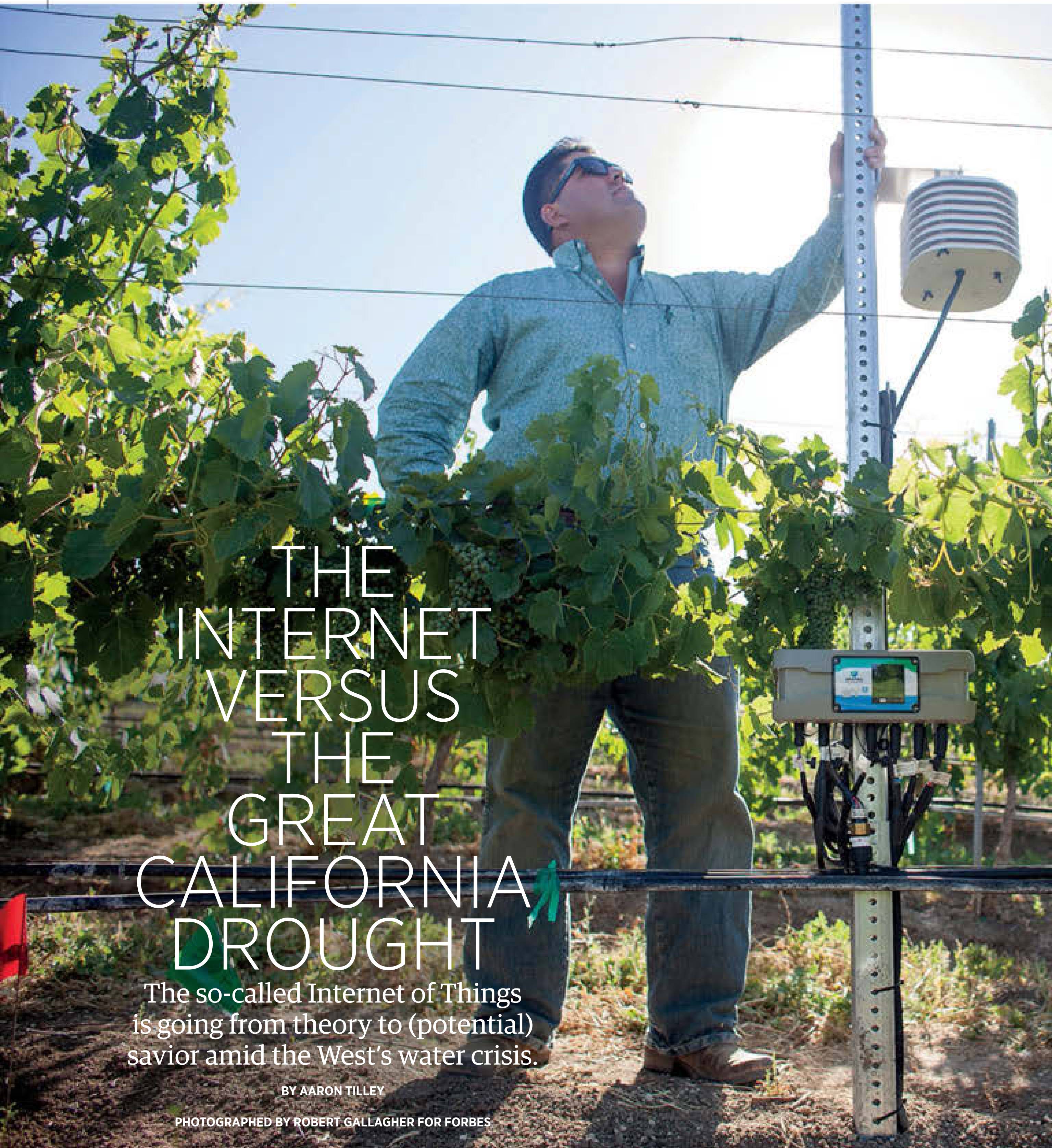


THE INTERNET VERSUS THE GREAT CALIFORNIA DROUGHT

The so-called Internet of Things is going from theory to (potential) savior amid the West's water crisis.

BY AARON TILLEY

PHOTOGRAPHED BY ROBERT GALLAGHER FOR FORBES

Richard Martinez keeps a close eye on his soil. The manager of organic production at Deardorff Family Farms in Oxnard, Calif. used to walk his celery fields, grabbing fistfuls of dirt and rubbing them between his palms to tell if the earth was moist enough. Now he just takes out his iPhone. With a dose of technology Martinez is doing his part to reduce his water use and—joined by dozens of cases like his—helping save America's biggest economy from environmental ruin.

California is going through one of the worst droughts in the state's history—entire lakes, rivers and reservoirs are drying up. California Governor Jerry Brown called for a statewide reduction in water usage by 25%. Inspectors are fanning out and could levy fines of $1,000 per day and $2,500 per acre-foot of water for those taking more than they're allotted.

While Californians may not be happy with this predicament, the drought is a gusher for a growing number of tech startups in the emerging world of the Internet of Things, the buzzy term for the trend of connecting devices and data in the physical realm to the Internet. Getting more sensors into the environment will help thousands of farms, businesses and cities figure out where water is going and how it can be diverted for the most efficient use. Agriculture is the area most ripe for collecting more and higher-quality data. Farming accounts for nearly 80% of human-related water usage in the state, according to the Public Policy Institute of California.

"Water so far has pretty primitive technology being applied to it," says David Sedlak, co-director of the Berkeley Water Center at the University of California, Berkeley and author of the book *Water 4.0: The Past, Present, and Future of the World's Most Vital Resource*. While tech is no cure for the West's extensive water crisis, it's one of the more powerful tools we have.

Gil Luera checks up on one of Hortau's smart soil sensor hubs at a vineyard near Paso Robles, Calif.

CUTS BACK ON WATER USE

20%-30%

AVERAGE SENSOR DEPTH:

18", 24" AND 36"

NUMBER OF SENSORS ON LARGE-SCALE GROWING OPERATIONS IN NORTH AMERICA

15,000

NUMBER OF DATA POINTS GENERATED PER DAY

2,500,000

HORTAU

Deardorff Family Farms has been in Richard Martinez's family since 1937. He grows organic lettuce, kale and water-intensive crops such as celery on 350 acres outside of Oxnard. Having suffered through two previous droughts, he's never seen conditions this bad. Martinez is under strict limits and has to figure out where he can cut back on water just enough before it starts killing off his crops.

In 2013 Martinez bought his first solar-powered soil sensors, but with the drought under way last year he bought seven more, installing them throughout the fields. Made by Hortau, a company in San Luis Obispo, Calif., the hubs have a cellular radio and are crammed full of interchangeable sensors for measuring variables such as temperature, humidity, oxygen, rainfall intensity and solar radiation. Hortau builds its own sensor to measure soil's ability to retain water, crucial for understanding precisely how much water is needed to keep a crop going. "You can cut water, but if you cut too much, two days later you could come back and your crop could be gone," says Martinez. Farmers using the system can achieve on average 20% to 30% of water savings, Hortau says. Sensors cost between $10 and $50 per acre per year depending on the crop. The company's growth was sluggish in its first several years, but since 2008, once cellular modems got cheap enough to put into each sensor, Hortau has been growing more than 50% a year on average. Some 80% of its sales are in California.

PINNING DOWN THE CLOUD

The Internet of Things is here to stay, and data demand is growing fast. Will your company keep up?

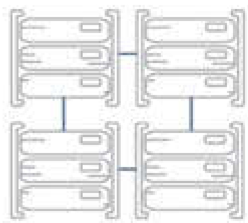
From music files to real-time traffic monitoring, nearly everything in our world is powered by data. The question is: Are you making the most of all that information? If not, it's time to get intelligent about your storage strategy.

90% of the world's data was created in the last two years alone.[1]

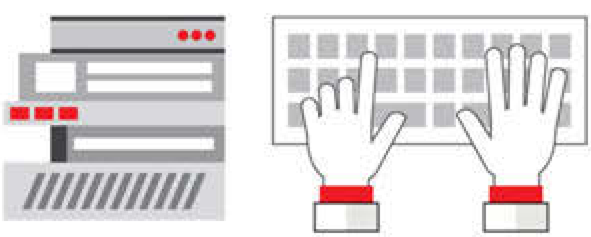
32 billion objects will be connected to the Internet by 2020.[2]

Astounding increases in the number of sensor-enabled "things" will result in an unprecedented growth in the quantities of data available for analysis.

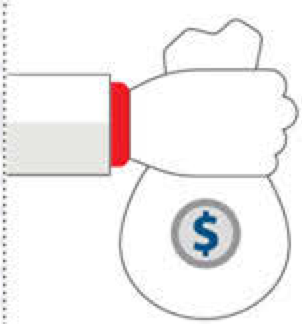
(Sensors embedded in a single self-driving car generate more than 750 MB of data every second!)



Machine-to-machine data transactions will eventually make up **50%** of all data transmitted over the Internet.[3]



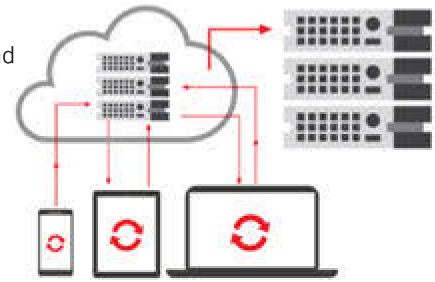
As much as **20 trillion GB** of data will be created by IoT alone by 2025. That's more than **twice** as much data as exists in 2015 from all sources![4]

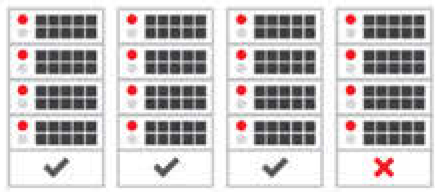


$8.9 Trillion

IoT is predicted to generate earnings of **$8.9 trillion** by 2020.[5]

Every line of data needs to be stored and backed up, securely, in order to be of use. After all, one of a company's greatest assets is its data management system.



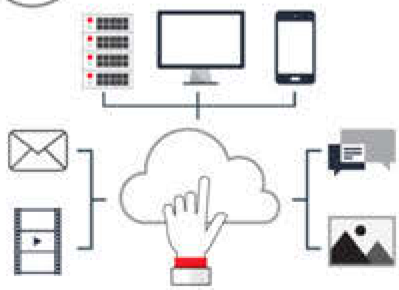


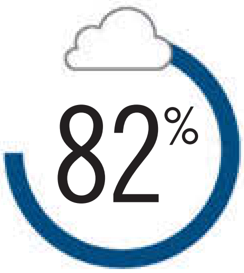
74% of companies believe that better storage practices would give them a competitive business advantage.[6]

The two fastest-growing infrastructure types for data storage are:[7]

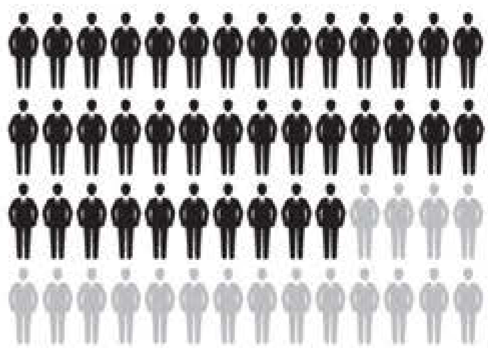
1 On-premise private cloud

2 Hybrid cloud systems





82% of large companies now have a hybrid cloud strategy.[8]



69% of executives believe that a hybrid cloud strategy should be one of the biggest areas of focus in 2015.[9]

By successfully harnessing and protecting its data, a company can use that information to **grow**, **to solve problems**, and to affect meaningful change within its industry.

Seagate *Voice:* To learn more about the data revolution visit **forbes.com/seagate**

[1] Seagate, At the Speed of Life: How Fast Is Your Data Footprint Growing? [2] International Data Corporation (IDC) [3] Seagate, wThinking Ahead: The Internet of Everything Izs Storage [4] Seagate Strategic Marketing & Research [5] International Data Corporation (IDC) [6] Seagate Strategic Marketing & Research, August 2014 [7] Seagate Strategic Marketing & Research, August 2014 [8] RightScale, 2015 State of the Cloud Report [9] Avanade, Global Study: Hybrid Cloud – From Hype to Reality

WATERSMART

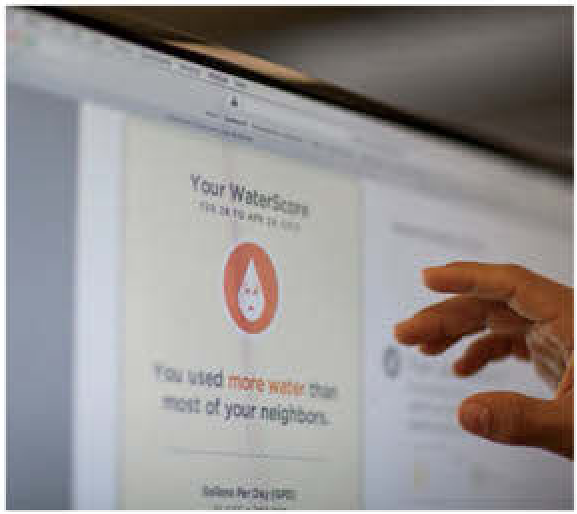
For most homeowners and small businesses, the quarterly water bill is an enigma shrouded in a mystery. It goes up and down, and there's not much you can do about it. WaterSmart is trying to demystify usage in order to get people to cut back. The San Francisco startup engages with water utilities to hoover up all their customers' meter readings and mashes up this information with dozens of related data points on the placement and age of homes, climate and occupancy rates. The startup collects nearly 700 million data points each hour to help utilities find leaks and identify which homes or neighborhoods are the heaviest or most anomalous water users. Just as Opower does with "electricity bill-shaming," WaterSmart sends homeowners and businesses personalized reports that show them how much water they're using compared with customers nearby and scores them based on their thrift. WaterSmart also sends customers messages on their smartphone if there's a leak or if they're allowed to water the garden on a particular day. On average, WaterSmart can cut a utility's water usage by 5% annually.

Much of the data WaterSmart is collecting from utilities is from regular dumb old water meters, but "smart meters" (those with wireless modems attached) are rolling out widely. Smart meters were 18% of the total in North America in 2013 and are estimated to increase to 29% by 2020, according to research firm IHS. Says WaterSmart CEO Robin Gilthorpe, "The more sources of fine-grained data, the better."

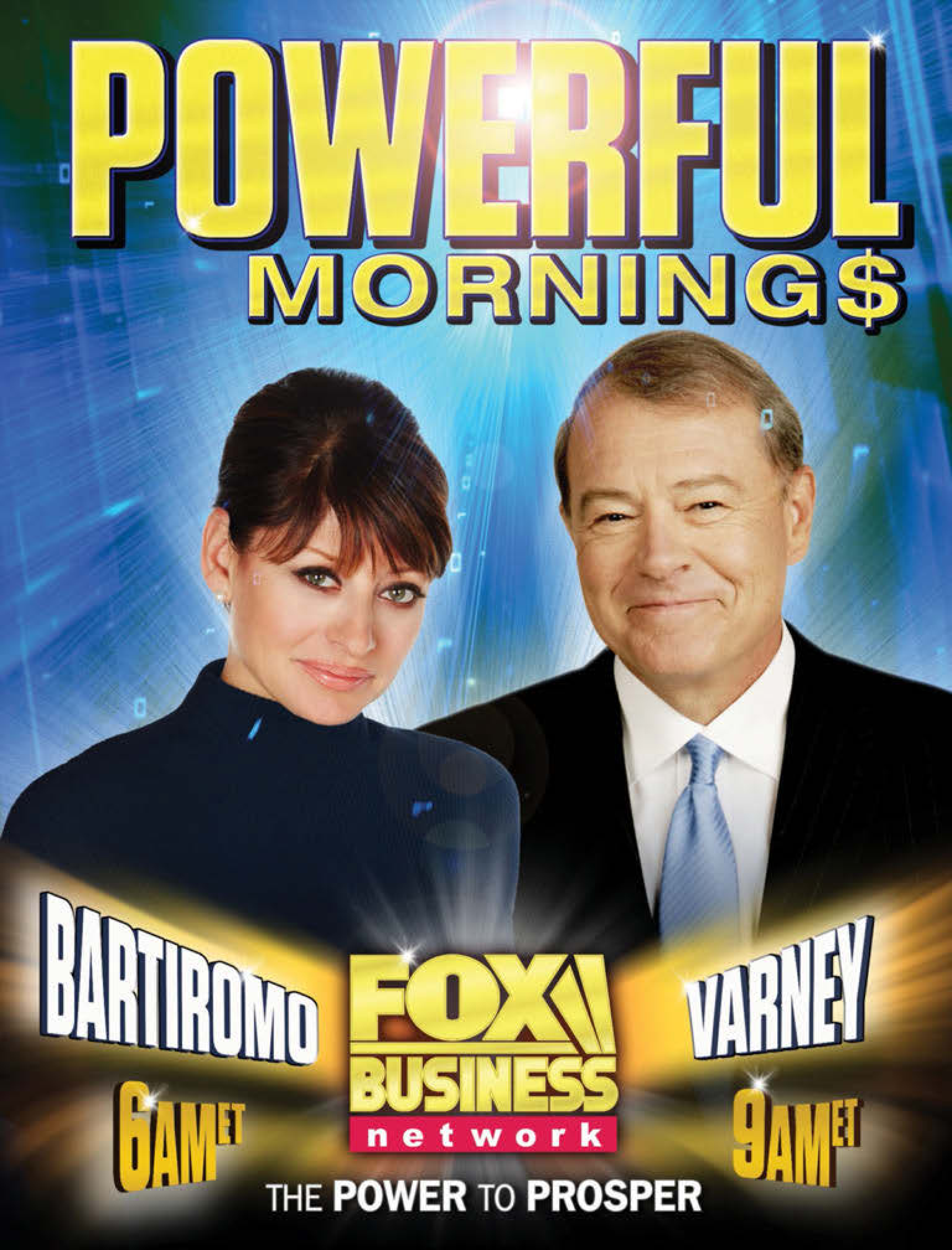
TOTAL ACTIVE ACCOUNTS:
2,038,661

TOTAL HOURLY READINGS:
696,620,505

SAVINGS OF
4.6%-6.6%



Robin Gilthorpe, CEO of WaterSmart in San Francisco, combines Big Data and behavioral science to nudge people to conserve.


POWERFUL
MORNING$
BARTIROMO
6AM ET
FOX BUSINESS network
VARNEY
9AM ET
THE POWER TO PROSPER

Karl Luft of Luft Vineyards in Templeton, Calif. inspects his Wellntel unit. It uses a sonarlike ping to measure his well water.

WELLNTEL

Once people start to run out of water on the surface, they begin looking underground. Typically, California depends on groundwater for 30% to 35% of its consumption. During droughts that usage can shoot up to 60%. The big problem: Nobody knows how much water is down there.

The traditional way of measuring well-water levels has been to send down a tap with a moisture probe at the tip. Data is collected once maybe every six months. Wellntel of Milwaukee has built a $500 contraption that sits on top of wells and sends a digital ping (it sounds more like a blip) down the drill hole, similar to how a submarine uses sonar. Each blip has a unique signature to distinguish it from the others. Data can be gathered as often as the user wants. All of that sounding data goes to a cloud server to produce a detailed, living map of the well interior. People who manage wells need to make sure they don't overdraw well water. If a well is totally depleted, that area of land can collapse in on itself or lower the water table, requiring deeper wells to be dug.

"We should think about groundwater as a bank account," says Wellntel cofounder Nicholas Hayes. "We supply information to folks who depend on the bank being balanced." Wellntel has been running a pilot for the past year and a half in Templeton, Calif. and is sending out final versions to hundreds of California well operators for installation.

WELL READINGS PER MONTH

1,300

COST OF EACH READING

0.005 CENTS

DROP IN WELL WATER IN 2014 IN TEMPLETON PILOT AREA

19 FEET

WEATHER DATA POINTS GENERATED EVERY DAY
8 MILLION

SPRINKLER CONTROLLERS NATIONWIDE
25,000

WATER BILL SAVINGS
40%-75%

GALLONS OF WATER SAVED LAST YEAR
15 BILLION

HYDROPOINT DATA SYSTEM

Keeping all those big lawns, hotel grounds and golf courses nice and green across California's cities requires buckets of water. Some 60% of urban water use goes to outdoor irrigation. But the irrigation systems are typically dumb pieces of equipment that run only on timers, which HydroPoint Data System cofounder and CEO Chris Spain calls "a great example of analog stupidity. They're resource-blind. They don't care if they're applying resources in an intelligent fashion."

HydroPoint in Petaluma, Calif. is putting sprinkler use on the Internet to make sure lawns aren't wasting tons of gallons because of overwatering. Its system crunches solar radiation, temperature, wind and humidity data from weather stations all over the country (8 million pieces of data every day) to determine something called evapotranspiration, which is the measurement of evaporation and transpiration of water from the Earth to the atmosphere. If evaporation is slow, the sprinklers don't have to come on as quickly or for as long. HydroPoint produces a more targeted on-off cycle for each sprinkler by combining its evapotranspiration score with 13 other parameters that include sprinkler type, shade, slope, soil type and root depth. HydroPoint's sprinklers also contain flow sensors to keep a close eye on what exactly is happening on-site. HydroPoint claims its system can cut a location's water bill by 30% on average. HydroPoint targets big customers with large landscapes to irrigate. Half of its business is in California. "When water was cheap and abundant, people thought, 'Who cares?'" says Spain. "The biggest barrier for us was that water was so cheap. Not anymore."

HydroPoint research chief Adam Opoczynski oversees servers that crunch 8 million data points a day to make sure urban lawns don't get overwatered.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Business
Your link to what's next™

CUBA'S TECH RE

ELIO HECTOR LOPEZ helps to put together El Paquete Semanal, a weekly digital package of movies, TV shows, digital magazines, software and apps that gets copied and distributed throughout Cuba.

THERE'S VIRTUALLY NO INTERNET ACCESS IN CUBA, BUT THAT ISN'T STOPPING A GENERATION OF YOUNG ENTREPRENEURS (AND U.S. COMPANIES LIKE AIRBNB AND GOOGLE) FROM CREATING A DIGITAL FUTURE FOR THEIR COUNTRY—TODAY.

BY MIGUEL HELFT

VOLUTIONARIES

Robin Pedraja, a lanky 28-year-old former design student from Havana, walked into the Cuban government's office of periodicals and publications early last year seeking approval for a dream: starting an online magazine about Cuba's urban youth culture. Hundreds of thousands of Cubans in recent years have been able to obtain licenses for small businesses, albeit only in a limited set of service categories such as restaurants, hair salons and translation. Media remains under strict government control. An online magazine? Pedraja was laughed off even before he could finish his pitch.

He decided to publish anyway, without identifying the magazine's creators. The first issue of Vistar came out last March. "We had nothing to lose," he tells me on a recent visit to his office, a room the size of a walk-in closet in his Havana apartment. Vistar is packed with attitude and eye-catching photography, covering music, art, ballet, food and celebrities. "It's a reflection of a new Cuban generation," says Pedraja, who grew up among artists and musicians in Havana. Soon the artsy young Cubans who were reading Vistar all seemed to know who was behind it. So Vistar published its masthead a few issues later, with Pedraja's name at the top, e-mail address included.

Sixteen monthly issues into his supposed transgression, Pedraja has yet to hear any official objections. That's not unusual in Cuba's murky legal environment. "There's an attitude among some government officials that 'I'm not going to authorize something, but I'm not going to prohibit it either,'" says Carlos Alzugaray, a retired diplomat and former head of Cuba's mission to the European Union.

More surprising: the success of an online magazine in a country where only a tiny minority have access to the Internet. Cubans by and large can't have home connections, and access at hotels costs about $7 an hour, out of reach for most. To circumvent that problem, Vistar's readers—a best guess is somewhere in the tens or hundreds of thousands—share the magazine through memory sticks or hard drives. Pedraja in turn supports himself and more than a dozen staffers through advertising—also remarkable, since advertising not tied to the government has been virtually nonexistent in Cuba for 50 years. "We're not waiting for modernization," Pedraja says. "We're pushing forward, adding our little grain of sand."

Those grains are starting to accumulate. Cuba's frosty relations with the U.S. are thawing quickly, but even before President Obama's historic decision in December to begin normalizing relations, Cuba's private sector had been undergoing a massive transformation. Back in the mid-1970s Fidel Castro began moving in fits and starts to open up the economy to entrepreneurs in a few business categories. In the last few years, however, since Fidel's younger brother Raul took over, the number of licensed *cuentapropistas* (roughly translated as "those who are on their own") has soared to more than 471,000 across more than 200 approved professions, from upholsterer to children's pony wagon operator, as of 2014. At least another million of Cuba's 5 million workers are engaged in some form of official or unofficial private sector activity.

The word "Internet" may not appear on any approved government list of professions, but that isn't stopping young

PHOTOGRAPHS BY ALEJANDRO GONZALEZ FOR FORBES

ROBIN PEDRAJA (left), creative director of Vistar, a digital magazine covering urban culture, with his friend **YONDAINER GUTIERREZ**, a cofounder of AlaMesa, an app that's something of a Yelp-meets-OpenTable for Cuba.

Cubans, such as Vistar's Pedraja, from harnessing the digital revolution. Smartphones are common, but they lack data connections. With no legal way to send or receive payments through credit cards or PayPal, charging for an app via Google's Play or Apple's App Store is not an option.

No matter. Go behind the scenes in Havana, as I did, and you'll find a swirl of tech action, overlaid by the kind of stunning creativity forged by necessity. It's a world of memory sticks and human middlemen, physically dispatched to conduct what in the U.S. would be a frictionless digital transaction. There's enough progress that Airbnb announced in April that it would expand into Cuba—and has already nabbed 10% of the 20,000-plus rooms for rent that have long been a mainstay for locals looking to supplement the meagre official wages, which average about $20 a month. Enough progress that Netflix and Google are dipping in their toes. Enough that one Cuban entrepreneur has launched the island's first "big data" startup, collecting information on all these private businesses that it will market to foreign companies interested in local investment.

Driving all of this: Cuba's Millennials, who have the same ambitions and (relative) tech savvy as their peers in Miami, a mere 220 miles northeast. While they're tired of the stifling conditions they live under, they're not interested in politics. They say they want to improve their lot and have normal lives, and they dream of the kind of basics—widespread Internet access and the ability to tap into the international financial system—that would crack the economy wide open for them and, yes, for foreign competitors. "I want to continue to live in Cuba," says Yondainer Gutiérrez, who has started AlaMesa, a thriving website and Android app that's something like the Yelp-meets-OpenTable of Cuba. "But I want to live in a different way."

Hiram Centelles is one of the pioneers of Cuba's Internet sector. He grew up in a country where black markets in everything from car parts to computers to diapers were a part of life, but it was always hard for buyers and sellers to find one another. So in December 2007, while a computer science student at the Instituto Superior Politécnico José Antonio Echevarría, Centelles anonymously created Revolico.com, a classifieds site that quickly became the Craigslist of Cuba. Three months later the government blocked it. That began a game of cat-and-mouse (constantly changing the Web address for its servers, personalized URLs e-mailed to users to circumvent blocks) that continues to this day. None of it stopped Revolico from becoming part of the daily life of many Cubans.

Centelles, who became public about his affiliation with Revolico in 2012 after he moved to Spain, says the site gets 8 million page views a month and 25,000 new listings daily. About half of its traffic comes from outside Cuba—most of it from south Florida—where the site makes some money sell-

Cuba's techies follow in the footsteps of the island's first generation of business owners, such as **NIURIS HIGUERAS**, who has been in the food business since the late 1990s. Now she runs Atelier, one of the most successful *paladares*, or private restaurants, catering mostly to foreigners, and has benefited from rave reviews on TripAdvisor. She employs 15 and thinks the opening of the private sector in Cuba is irreversible. "We help meet the country's need for employment and are a solution to its economic problems," she says.

ing ads. In Cuba, where Revolico has no legal standing, it charges for "premium" listings, which get promoted on the site. Associates of Revolico collect the payment for those listings unofficially, and in cash.

Similarly, AlaMesa's success underscores the hunger Cubans have for the kinds of apps and services that are taken for granted in the rest of the world. Started by Gutiérrez and four friends in 2011, AlaMesa is eager to promote Cuban culinary culture. Going door-to-door, the group checks out restaurants, examines their menus and lists them on the app, if the restaurants agree. More than 600 restaurants have, in nine Cuban provinces, and 30% of them pay, in cash, to get promoted on the app.

Again, the user market is twofold. Foreigners planning a trip to Cuba can download the app while at home. In Cuba it's passed along, like Pedraja's online magazine, by devoted fans. While the site has grown to 6,500 monthly users from Cuba, the United States, Spain and other countries, and 2,800 are registered to receive its newsletters, the business is far bigger offline.

JAVIER ERNESTO MATOS SOTO, a former computer science student, runs one of four outlets of La Clínica Del Celular, tiny storefronts that offer cellphone repair, install Cuba's growing list of offline apps like AlaMesa, Revolico and IslaDentro, and sell secondhand devices. He works out of a converted garage because renting commercial space is a near impossibility. Most parts come in the suitcases of friends and relatives who travel to the U.S. His official competition in Old Havana is a cavernous government cellphone store that sells one model.

Like tech entrepreneurs, **JULIO ALVAREZ**, owner of Nostalgic Cars, has had to battle stifling Cuban laws and the U.S. embargo to succeed. He started by refurbishing a single vintage car four years ago and has since bought and painstakingly restored 22 classic cars, which his wife operates as taxis for tourists. But most parts are brought from the U.S. in suitcases or, in the case of paint for one vehicle recently, in plastic Coke bottles. He can work only on one or two cars at a time. "You can't imagine how difficult it is to do our job with these challenges," he says.

To call these ventures bootstrapped would be a wild understatement. On a stiflingly humid late June morning Vistar's Pedraja agrees to meet in the lobby of the Havana Libre, a hulking hotel known as the Havana Hilton before the 1959 revolution. After a few minutes we head a few blocks over to his home office, upstairs from a handmade ceramics shop on a leafy street in the Vedado section of Havana. The front room houses a 1970s washing machine, a threadbare ironing board and a couple of faded armchairs. Through the kitchen is an air-conditioned room that's so small you can touch the walls on opposite sides of the room if you stand in the middle.

A colleague of Pedraja's is working on the next issue at a desk with two computers and large displays. Leaning against one wall, Pedraja talks fast—like most Cubans—with an intensity that's tinged with pride and impatience, like a teenager who's tired of being told what to do. "They should let us Cubans do other kinds of business that are not restaurants or fixing cellphones," he says.

Pedraja, the son of a musician, used his art-scene connections to land interviews with some of the country's biggest celebrities, including Kcho (pronounced ca-cho), a reclusive contemporary artist of international renown who graces the June cover, and to publicize events that even connected Cubans didn't know were going on. Vistar, which now publishes in English and Spanish, has more than 100,000 downloads, 60% of them from outside Cuba. When it ran a photo contest promising an iPhone to the winner, it received more than 3,000 submissions. "It's an era of transition in Cuba where we needed a publication to cover these things," Pedraja says. And it's an era where good ideas are copied—there's now also a slick digital magazine dedicated to Cuban sports—creating nascent industries that are expected to quickly accelerate now that the genie is out of the bottle.

If these scrappy startups are Cuba's budding BuzzFeed, eBay and OpenTable, then El Paquete Semanal ("the weekly package") is more akin to the Google and Comcast of the island. Think of it as the Internet-in-a-box for an unwired country or, more precisely, the Internet on a terabyte portable hard drive.

El Paquete began some half-dozen years ago, compiled by a small, shadowy group of friends in Havana every week. It's a massive digital trove of recent movies, TV shows, magazines, apps, software updates and other digital goodies made available to Cubans, often mere hours after they become available elsewhere in the world. It's copied and distributed on portable drives to 100 people, who distribute it to 1,000, and so on, and then it's delivered through an informal network of human mules who travel in public buses to every corner of the island. Most customers get the drive at home, where they exchange it for last week's drive and the equivalent of $1.10 to $2.20. (Distributors selling to other distributors charge ten times as much.)

How many people get El Paquete is impossible to know, and not all versions are identical, as people operating in nodes along the network add or remove content. But virtually all of the taxi drivers and others in Havana I asked said they get it.

El Paquete's creators have kept a very low profile, but perhaps in a sign of Cuba's growing openness—and the growing boldness of its entrepreneurs—the man many in Havana's tech circles know as El Transportador, or the conveyor, agreed to meet me. Elio Hector Lopez lives in a ramshackle block of apartments known as a *solar*, which can charitably be described as a tenement. To get to his second-floor apartment, we walk through a courtyard where street dogs snooze in the shade, up a cement staircase to a long corridor lined with modest apartments that get their power from a maze of jury-rigged wires. Lopez's unit is dingy and dark, with a couple of grimy armchairs and a two-seat sofa.

ALEJANDRO PORTIELES and **NELLY FIGUEREDO** have begun listing on Airbnb the three rooms in their historic and beautifully restored 200-year-old house, where I stayed. Previously they advertised in a variety of local agencies and online sites. Like other hosts they lack Internet access, so they rely on a third party to advertise the rooms. I paid Airbnb via credit card, and the company used an approved sender of remittances to wire the money to Cuba, where it got distributed to my hosts in cash.

"The Paquete has become something that's necessary for the country," he says, as we sit down across from each other. "People see it as a form of Internet." Google executives have come to see him, he says.

Lopez, 26, was an economics student and toured Europe with a theater troupe. At 18 he began collecting digital music and distributing it on thumb drives and CDs to deejays across Havana and the rest of Cuba. Within a year or two he met up with a small group of like-minded types who had done the same with movies, TV and software, and they agreed to team up.

El Paquete was born, and while the original members are no longer together, it remains the creation of a loose band of collaborators. How exactly they manage to keep El Paquete current, compiling so much data so quickly on everything from the latest app and digital magazine to *Jurassic World* or a new episode of *Game of Thrones*—not to mention updates of AlaMesa and Vistar—Lopez refuses to say. "These things are complicated," he says with an evasive smile, though he admits much of the video content comes from pirated satellite TV. Sitting at the head of the principal network that connects Cuba to the digital world, Lopez says he feels a keen sense of responsibility. While he's happy to make a modest living, he's not interested in fortune or fame, and El Paquete is certainly not run like a company. "Some of the distributors make more money than we do, because they have a larger network of customers," he says. That's fine with him.

Those are the same notes coming from Airbnb. Cuba has always been the original rent-a-room market; thousands of locals, marketing via word of mouth, have generated money this way for years. These hosts are poised to play a more critical role as the American détente promises to flood the country with new visitors the island's hotels won't have the capacity to absorb. What's more, Airbnb's efforts have the potential to supercharge these cuentapropistas (even if they will also presumably squash the crop of Cuban middlemen who currently help hosts promote their rentals)—and underscore the peace-and-empowerment message that the Silicon Valley startup espouses. "The primary reason for doing this right now is to show people how connecting individuals in different countries can bring countries closer together," says Airbnb cofounder Nathan Blecharczyk, who was visiting Havana last month.

It's been a boon to hosts like Magalys Lara Ramos, 75, who rents an apartment in Old Havana. She was expecting it to be empty during most of the off-months of May and June but has seen a steady stream of mostly American visitors. "It's been all-full," she says.

Everyone plows on, mindful that this will surely change. A few weeks ago the Castro government announced that it will sanction 35 Wi-Fi hot spots around the country, which Cubans can tap into for $2 an hour. Such fitful progress explains why Google has sent executives to meet with officials and entrepreneurs frequently. And why Netflix unblocked its service in Cuba this year, even if, since few Cubans have broadband and fewer still a digital way to pay for a subscription, the move was mostly symbolic.

As far as Cuba's young tech revolutionaries go, the sooner the U.S. tech giants invade, the better. It would signify a new openness, they say, and surely create more opportunities than it would snuff out. But they also recognize that these nascent years will establish those with position. "We have a window of at least a couple of years before any of the big players come here," says one of the founders of AlaMesa, who, unlike his partner Gutiérrez, is still not comfortable enough to use his name. "But I try not to be naïve: Winter is coming."

Gutiérrez, though, is thinking the exact opposite way: "I'd love some day to have AlaMesa Miami or AlaMesa Buenos Aires." He has a point: Given the obstacles faced by him and his pioneering peers, global expansion would be a cakewalk.

AMERICA'S RICHEST FAMILIES

GUESS HOW TO BLOW $1.5 BILLION?

THE MARCIANO BROTHERS MADE GUESS THE SEXIEST NAME IN JEANS AND THEMSELVES A $2.7 BILLION FORTUNE AT ITS PEAK. TODAY THE FAMILY AND BUSINESS ARE IN TATTERS.

BY ABRAM BROWN

Going it alone: The only one of four brothers still running Guess, Paul Marciano is struggling to keep the once exciting clothier relevant.

PHOTOGRAPH BY ETHAN PINES FOR FORBES

It takes just five words to understand what Paul Marciano once envisioned for Guess, Inc. and the dominating control he and his brothers have exerted on it. Scrawled in a looping, cursive script and lit up like a neon bar sign, the quintet hangs on the first-floor wall of Guess' Los Angeles headquarters opposite supersize images of its iconic, nearly nude models: The World Is Our Field. "It's my handwriting," says Paul Marciano, Guess' 63-year-old cofounder, chief executive and vice chairman, underscoring the point. "All of this is my handwriting."

Technically, Guess went public in 1996. As far as control goes, though, it remains as much a family-run company—family-dominated, really—as when it was founded in 1981. Mercurial, obsessive and opinionated, Paul and his siblings, Maurice, Georges and Armand, erected a denim empire by imposing their will on everything: the jeans (tighter, lighter and more stylish), the marketing (the iconic and voluptuous Guess Girls, most notably Anna Nicole Smith, who turned a workman's staple into a garment as seductive as lingerie) and, yes, even the glowing lettering in the headquarters.

For much of their run it was hard to argue with their domineering ways. When Guess' stock reached an intraday high of $57.20 in October 2007, the siblings, who owned nearly half of the company, were collectively worth an estimated $2.7 billion; Maurice and Paul were individual billionaires.

But the past few years have not been kind to the family business. Sales have declined for three consecutive years, down to $2.4 billion, and profits have plummeted to just $95 million, the lowest in a decade. The stock is down 65% from its high, a period when the S&P 500 surged 40%. Today the Marcianos barely make FORBES' list of America's 200 Richest Families, clinging to the last rung with a collective worth of $1.2 billion.

The Marciano clan has split at the seams as well. Georges, 68, left in a huff in 1993 after selling his stake to his brothers. An exile living in Montreal,

MARCIANO BROTHERS

he is now suing Guess over alleged trademark infringement *(see box, p. 103)*. Armand, 70, who never made much of a mark, quietly departed a decade after Georges, following a medical leave. That left Maurice and Paul—but Maurice, 66, stepped down from his co-CEO role with Paul in 2007, becoming chairman while also focusing on his 55-acre Napa Valley estate and winery. He reduced his role further in 2012, officially retiring as a Guess executive. While he and Paul still seem close socially, he recently has found himself more out of the picture at Guess as he recovers from a car crash in May. That leaves Paul, the youngest, by himself at Guess.

It's been a lonely place lately. "It's no secret that our business has changed drastically," says Paul, whose silver mane stands out against his dark-blue blazer and jeans. Still he's not thinking about anything too radical: "Guess will always be loyal and true to its roots."

That may ultimately be its undoing, according to numerous ex-employees and Wall Street analysts. "You need new management. Some new blood," says Morningstar's Bridget Weishaar. "You need a new brand image. You need to be relevant to today's youth."

THE MARCIANOS' own youth was spent far removed from the southern California beaches and pinups that would later become key elements of the Guess image. They grew up poor, sons of an Orthodox rabbi, in Marseille. When they were young, they opened a series of stores in France. They left 12 behind (as well as an unpaid nearly $10 million tax bill, eventually settled for $2.2 million) to come to America in 1977.

Guess began in 1981, with Georges and Maurice first, then Armand and Paul. Georges designed the clothes, burnishing Guess' signature style: stonewashed denim, lighter in color, softer and more form-fitting than competitors'. Maurice handled product development. Armand ran distribution. Paul created the advertising, all of it in-house.

Sex sold Guess jeans. Paul developed ads indelibly linking the brand with steamy images of women wearing practically nothing but Guess jeans. "All of our pictures are seductive but elegant," he says. He opted for unknown models, demonstrating an eye for picking a face that would connect with his customers while launching the careers of many famous models: Claudia Schiffer, Naomi Campbell, Laetitia Casta and Smith, who became infamous for marrying octogenarian billionaire J. Howard Marshall before dying tragically in 2007.

Guess' first big hit was the Marilyn jean, pants with such a snug fit it had three zippers: one at the fly, one at each ankle. While the brothers had their own Beverly Hills store, they also sold their jeans to Bloomingdale's, which priced them at a then head-turning $60. In just one year sales hit $6 million.

Their expansion plans quickly exceeded their bank account. To raise cash, the Marcianos sold a 50% stake in Guess for $4.7 million in 1983 to the Nakash brothers, owners of Jordache, an established clothier, which already had plants in Hong Kong. The two denim phenoms apparently had a gentlemen's agreement that Jordache would not knock off Guess, but shortly after the deal was done, the Marcianos alleged that their new partners copied Guess' designs. It eventually led to a courtroom brawl that produced at least 70 hearings, 100 depositions and 300,000 legal documents.

The Nakash brothers, in turn, accused the Marcianos of operating a kickback scheme and paying themselves double the salary outlined in the employee contracts. According to previous FORBES reporting, things got even murkier when the Marcianos established a cozy relationship with an IRS agent, feeding him allegations about the Nakashes' tax dealings—a congressional panel later accused some high-ranking IRS officials of misconduct; the Marcianos reportedly denied any wrongdoing.

CONDÉ NAST ARCHIVE/CORBIS

Guess who's missing?: Marciano brothers Paul (left), Maurice (center) and Armand (right) in Guess HQ in 1991. Absent is brother Georges, who cut ties to the company two years later.

The two sets of brothers settled in 1990, and while the terms were never disclosed, the Marcianos emerged from the melee the sole owners of Guess, which thrived amid the ordeal.

At that point the Marcianos began to turn on one another. Georges wanted to put Guess into lower-tier stores, like J.C. Penney. His brothers hated the idea. Different camps formed within the company, with each pledging allegiance to either Georges or the other three. Georges eventually gave in and sold his stake to his brothers in 1993 for $214.2 million. To finance the purchase, they had to borrow $210 million, and $105 million was still outstanding three years later. To raise money, the brothers decided to take Guess public and bunkered in. "I've never worked for any boss who worked harder than they did," says Karen Ioli, a former licensing vice president who reported first to Georges, then to Paul. "We worked Saturdays—they worked Saturdays. It was a challenging place to work, difficult at times." Their chief obsession, pre-IPO, was the exclusivity of their brand. Guess started axing any wholesalers that might tarnish that image, though it continued to sell in outlets like Bloomingdale's and Dillard's. The wholesale business, some 67% of revenue in 1993, shrunk to 56% within two years.

Things did not ease up after the 1996 offering. One former Guess executive recalls a particularly fraught meeting occurring about the logo on a pair of jeans. A distraught Maurice demanded, at the top of his lungs, that the logos get replaced immediately.

"Maurice, what we are going to do with all the inventory?" the executive remembers asking.

Maurice didn't miss a beat. "Burn it."

"Now, I don't think we ever burned the jeans, but there was a theater to Guess," the executive says, "and that order to burn them was part of the theater." (Guess denies any knowledge of the incident.)

The theater moved out of the offices, as Guess continued to shift away from wholesale to its own branded stores, including in Europe. Customers responded, helping drive up sales by 40% in the four years following the IPO.

Emboldened, the Marcianos rolled out a handful of new store formats all around the world. One devoted itself to accessories. G by Guess, meanwhile, positioned itself as the middle ground between factory and regular prices. Yet a third chain received a particular burden: the Marciano name. Those Marciano stores—half the size of the older Guess stores, with a more boutique feel—carried higher-priced women's clothes. They also agreed, despite those plans elsewhere, to sign licensing deals in Asia, where they apparently felt it was more difficult to get a foot in the door.

While the Marcianos had never shared power with anyone, they found a valuable lieutenant in Carlos Alberini, who had spent time at Bon-Ton and the corporate entity that became CVS before joining Guess in 2000. At Guess he set strategy with the Marcianos and helped communicate those plans back to other executives in the organization. "Carlos was the secret to their success. A lot of the credit goes to him," says one former

ESCAPE TO MONTREAL

FOR MANY YEARS GEORGES MARCIANO WAS THE BROTHER most closely associated with the Guess brand, the creative genius behind its hit designs. He left abruptly in 1993, selling his stake to his brothers for $214.2 million. He no longer had anything to do with the brand. He was too busy spending his spoils on wine, art, cars, watches and jewelry, including a $16.2 million diamond he named after his daughter, Chloe.

His life started to unravel in 2003, when Marciano and his wife, Megan, divorced. In the following years he engaged in a series of nasty lawsuits with former employees, whom he accused of stealing from him. His chief bookkeeper testified that he had threatened to "ruin" her; another bookkeeper said his behavior had driven her to seek therapy and put her into a deep depression. The court ruled in the employees' favor. Georges subsequently decamped for Montreal in 2009, while those employees have struggled to collect money from him. Their dispute apparently remains ongoing. Through a spokesman Georges declined to comment.

These days Georges is trying to rekindle his design success—this time as a solo act. He opened a boutique bearing his name in Montreal last August in a historic part of town just steps from the beautiful Notre-Dame Basilica. Yet he hasn't totally put his old life behind him. He's suing Guess and a Kuwaiti firm, Universal Perfumes & Cosmetics, for $21 million over alleged trademark infringement. He says he spotted Universal Perfumes selling a line of perfumes bearing his name on its website and believes there's a link between Universal and Guess. He refuses to go into detail about why he suspects a connection, which isn't immediately apparent. Calls to Universal were not returned; a lawyer for Paul says the lawsuit has "no merit" and adds that Guess hasn't had a perfume licensee for "many years." —*A.B.*

Guess executive. "He knew how to be a buffer between the Marcianos and the rest of the organization." With him on board, Guess seemed nearly unstoppable. In that decade the number of stores grew from 427 to 1,373, and sales ballooned to $2.5 billion.

FOR GUESS THE turning point can be traced to two departures. The first, Maurice's, was in 2007. He exited the co-CEO position, taking a slowly diminishing role as Guess' chairman. He threw himself into building a winery—Marciano Estate, naturally—on property he'd bought one year earlier, a historic patch of northern California once owned by a Gold Rush-era tycoon.

While Maurice toiled in Napa, Alberini left in June 2010 to run Restoration Hardware. Since he left the stock has dropped about 40% as the broader market almost doubled. Almost as dramatic, the fall in Guess stock since Maurice retired in January 2012: a 30% drop versus the market's 60% climb.

Sex sells: Guess used bombshells like Claudia Schiffer (top) and Anna Nicole Smith to model its clothes.

Guess has historically struggled to keep its people in the fold and content. "The Marcianos are inconsistent when managing staff and the overall company culture. It's a challenging environment," says a departed Guess vice president, who stuck around for less than three years and, like nearly all ex-Guess employees, pleaded for anonymity to avoid trouble with the Marcianos. A big part of the problem was the poisonous atmosphere. "It was like World War III," says one ex-merchandising vice president, describing a climate where the Marcianos fixated on people's mistakes. Paul won't comment. Alberini, meanwhile, says he "never saw them in that light."

They also never seemed able to stick to a strategic plan, a problem that has been catching up with them. "You could work with senior leadership, establish your three- to five-year plan, and if accessories had two great weeks in a row, half of the store was converting to accessories," says the former vice president. "It's never about the longer-term vision. It's never, 'How are we going to grow this?' That's not them." (Paul again wouldn't comment.)

That shortsightedness, in the face of the athleisure boom led by Lululemon and the emergence of fast-fashion rivals with shorter production cycles (it takes Guess about eight times longer to get something to the store than its fleet-footed rivals like Zara), has wrecked profitability. In its key North American retail business—still the biggest part of Guess—comparable store sales, a key barometer of a retailer's health, have declined by 4.9% and 3.7%, respectively, in the past two fiscal years. Net profits, not coincidentally, are off 40%. Ironically, the most profitable segment of the business now is the tiny licensing division. It accounts for 4.6% in sales but 80% of profits.

Paul has responded to the business' decline with some store closings, stopping short of anything drastic, a small capitulation to the criticism that Guess had overexpanded. In North America its store count decreased by 5% to 481 in three years. Many of the closings were the newer store formats that Maurice and Paul had developed in the 2000s. Paul has also been merging some of the higher-priced women's clothes from the Marciano stores into the main Guess stores. Plus, the brand's front woman, Gigi Hadid, is becoming high-profile, recently appearing in *Sports Illustrated*'s swimsuit issue and snapped in photos with pal Taylor Swift.

Yet a recent trip to a mammoth New Jersey mall—on the type of scorching day that drives America into stores—reveals a desultory scene. The Marciano store is completely empty. The Guess store has a few people there, examining a head-scratching assortment of items: bejeweled booty shorts, pants reminiscent of a spaceman's trousers and many garments adorned with Guess emblems. The ubiquity of the logo—it's stamped on perhaps two-thirds of the store's merchandise—makes any purchase feel like a submission to idolatry.

Nearly 3,000 miles away in a Guess HQ conference room, seated below a picture of another idol, 1990s Guess Girl Claudia Schiffer, Paul defends the future of his family business. "We believe in our brand. We believe that if it has to be a smaller company, so be it," he says. "If that means we have to shrink the number of stores from 1,600 stores to 800 stores, we will do that. Our effort every day is to believe that we will be in business 10 years from now, 20 years from now, because that is my dream." If the last of the domineering Marcianos needs to will his vision, then so be it. F

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= $1 BIL = $10 BIL

BILLION-

FORGET THAT OLD SAYING THAT FORTUNES DIE BY THE THIRD GENERATION. FORBES' WITH ROOTS GOING BACK TO THE 19TH CENTURY. AMONG 33 NEWCOMERS: THE

1. WALTON $149 billion ▼ 6 members
Heirs of Wal-Mart founders own 54% of the retailer.

2. KOCH $86 billion ▼ 4 members
Brothers Charles and David run conglomerate Koch Industries.

3. MARS $80 billion ▲ 3 members
Owners of world's largest candy company.

4. CARGILL/MACMILLAN $45 billion ▲ 23 members (est.)
Clan behind Cargill Inc., America's largest private company.

5. COX $34.5 billion ▲ 3 members
Cox Enterprises owns media, automotive companies.

6. HEARST $32 billion ▼ 66 members
Hearst Corp.'s most valuable asset: stake in ESPN.

7. PRITZKER $30 billion ▲ 13 members
Chicago family best known for founding Hyatt Hotels.

8. JOHNSON (S.C.) $28.8 billion ▲ 11 members
Fifth generation cleans up with Ziploc, Windex, Glade, etc.

9. JOHNSON (EDWARD) $26 billion ▼ 4 members
They run Fidelity, second-largest U.S. mutual fund company.

10. DUNCAN $22.4 billion ▼ 4 members
Children inherited pipeline firm Enterprise Products Partners.

11. NEWHOUSE $18 billion ▲ 2 members
Media empire includes newspapers, Condé Nast magazines.

12. LAUDER $16.5 billion ▲ 6 members
Cosmetics empire began with Estée Lauder's homemade creams.

13. ZIFF $15 billion ▲ 3 members
Fortune stems from 1994 sale of magazine publisher Ziff Davis.

14. DU PONT $14.5 billion ▼ 3,500 members (est.)
Oldest family business in ranks; invented nylon, Kevlar, Teflon.

15. HUNT $14.2 billion ▼ 33 members
Descendants of oil baron H.L. Hunt, own Kansas City Chiefs.

16. SACKLER $14 billion ★ 20 members (est.)
Family's Purdue Pharma reaps billions from painkiller OxyContin.

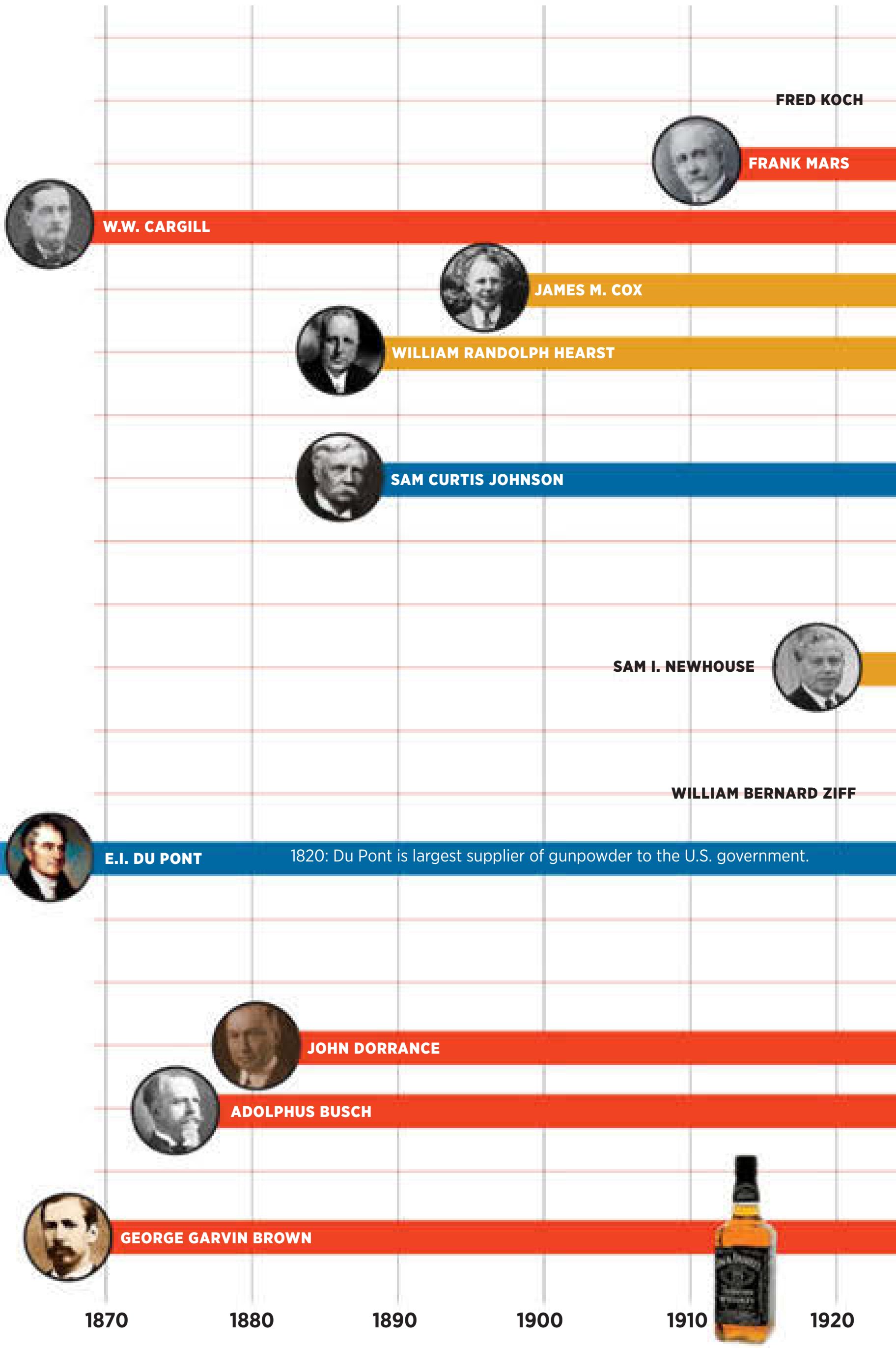
17. DORRANCE $13.6 billion ▲ 11 members (est.)
John T. Dorrance invented Campbell's condensed soup in 1897.

18. BUSCH $13.5 billion ▲ 30 members (est.)
Family forced to sell its Budweiser business in 2008 takeover.

19. JOHNSON (RUPERT) $13.4 billion ▼ 5 members
Family owns 37% of mutual fund manager Franklin Resources.

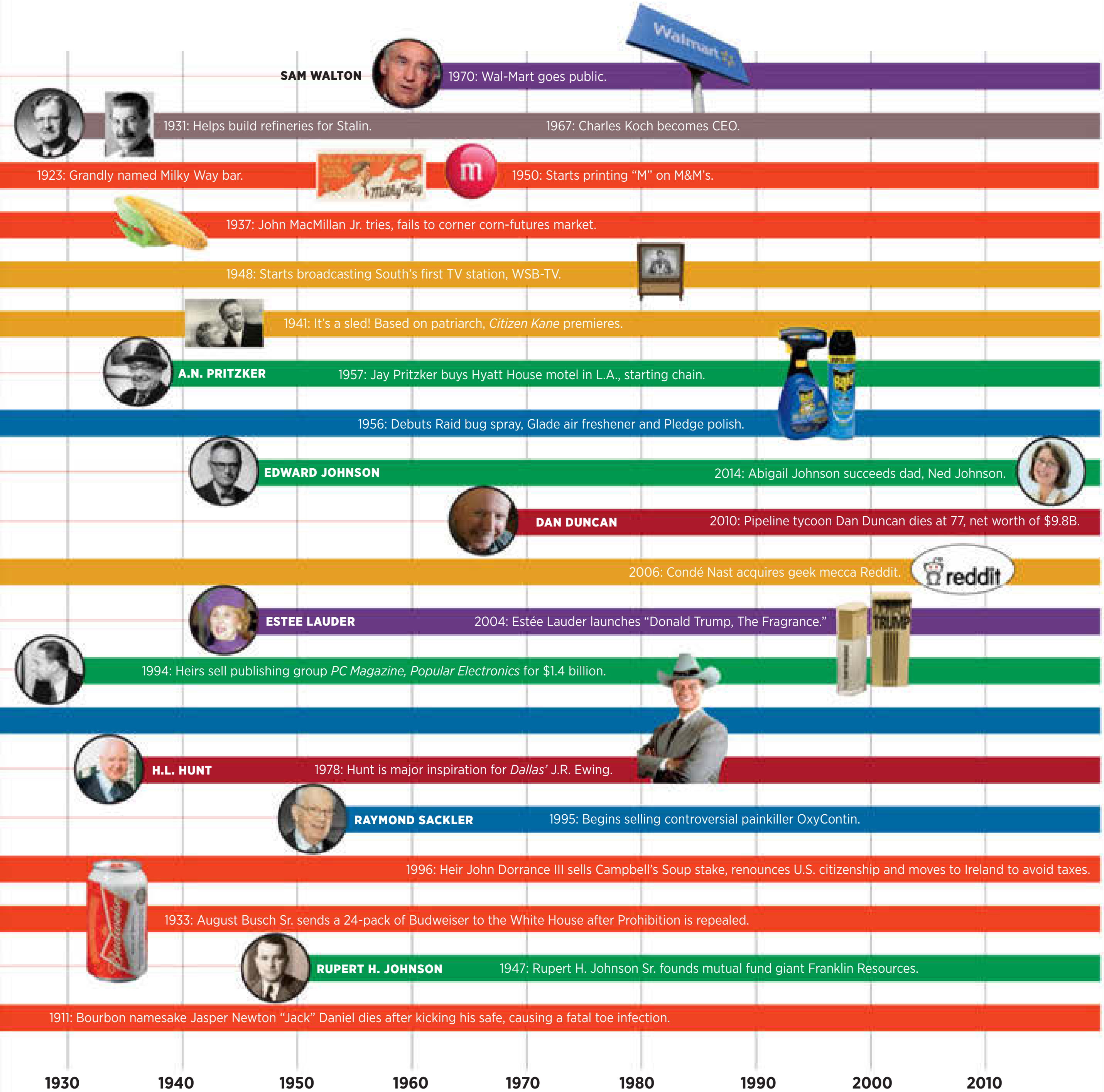
20. BROWN $12.8 billion ▲ 25 members (est.)
Its Brown-Forman makes Jack Daniel's, Finlandia vodka, Herradura tequila.

NEW ▲ DOWN ▼ EVEN ▶ NEW ★



DOLLAR BLOODLINES

LIST OF AMERICA'S 200 RICHEST FAMILIES (MINIMUM NET WORTH: $1.2 BILLION) SHOWS MANY SACKLERS, WHO GOT RICH OFF OXYCONTIN, AND THE GREENBERGS, WHO CREATED SKECHERS.



AMERICA'S RICHEST FAMILIES

Du Pont

PANIC OF 1837
Runaway real estate speculation and easy credit (sound familiar?) crash the American economy, sparking a 6-year-long depression; **Thomas Mellon** starts investing in foreclosures and mortgages.

SECTOR
- DIVERSIFIED
- ENERGY
- FASHION AND RETAIL
- FINANCE
- FOOD AND BEVERAGE
- MANUFACTURING
- MEDIA
- REAL ESTATE
- SERVICE
- TECHNOLOGY

2015 WORTH
= $1 BIL
= $10 BIL

Mellon

1802 1804 1836 1838 1840 1842 1844 1846 1848 1850 1852 1854 1856

21 MELLON
$11.5 billion ▼ 200 members (est.)
Irish immigrant left real estate, banking fortune.

22 FISHER (GAP)
$11 billion ▲ 4 members (est.)
Gap announced in June it was closing 175 stores amid sluggish sales. It has about 3,700 stores under Gap, Old Navy, Banana Republic and Athleta brands.

22 ROCKEFELLER
$11 billion ▲ 200 members (est.)
With Standard Oil, John D. Rockefeller became America's first billionaire. His only living grandchild, David, turned 100 in June.

24 BUTT
$10.4 billion ▲ 5 members
Florence Butt opened a grocery store in Texas in 1905. Grandson Charles runs $22 billion (estimated sales) H-E-B chain.

25 GALLO
$10.3 billion ▲ 14 members (est.)
Brothers Ernest and Julio Gallo started making wine in Calif. in 1933. It's now world's largest winemaker.

26 MARSHALL
$9 billion ▼ 3 members
J. Howard Marshall II traded stake in his Great Northern Oil for chunk of Koch Industries in the 1950s. Today his heirs still own 14% of Koch.

27 CROWN
$8.8 billion ▲ 3 members (est.)
Henry Crown merged his building-supplies company with General Dynamic in 1959; family owns 10% now plus part of Rockefeller Center, N.Y. Yankees.

28 REYES
$8.6 billion ▲ 3 members
Chicago family owns largest U.S. beer distributor, Reyes Beverage Group, and biggest food distributor to McDonald's, Martin Brower.

29 BASS
$8.2 billion ▼ 4 members
Brothers Sid, Edward, Robert and Lee inherited small fortune from oil-tycoon uncle Sid Richardson, then multiplied it via smart investments.

30 SHOEN
$8 billion ▲ 13 members (est.)
L.S. Shoen cofounded U-Haul in 1945. Son Joe runs it now. Son Mark is largest shareholder.

31 HUGHES
$7.9 billion ▲ 3 members
B. Wayne Hughes started with one storage facility in 1972. Now Public Storage has 2,200 locations.

31 MEIJER
$7.9 billion ▼ 4 members
Hank and Doug Meijer, grandsons of founder Hendrik Meijer, run Midwestern supermarket chain Meijer.

31 STRYKER
$7.9 billion ▲ 3 members
Michigan orthopedic surgeon Homer Stryker founded Stryker Corp. in 1941, selling new medical equipment like the mobile hospital bed.

34 PIGOTT
$7.7 billion ▲ 30 members
William Pigott Sr. started Paccar to make logging and railway equipment. Now Paccar specializes in medium- and heavy-duty truck manufacturing.

34 SIMON
$7.7 billion ▲ 5 members
Simon Property Group, founded by brothers Herb and Melvin (d. 2009) Simon, is one of world's largest REITS, with shopping malls in U.S., Europe, Asia.

36 SIMPLOT
$7.5 billion ▼ 3 members (est.)
Eighth-grade dropout J.R. Simplot (d. 2008) started selling Idaho potatoes to McDonald's, then added phosphate mining, fertilizer production.

37 ROLLINS
$7.4 billion ▼ 11 members
Rollins Inc. is best known for its termite-killing subsidiary, Orkin. Clan is locked in a legal dispute over access to trusts.

38 BECHTEL
$7.3 billion ▼ 4 members (est.)
In June family-run construction giant Bechtel completed tunneling under London for Crossrail, a new high-capacity railway.

39 CHAO
$7.2 billion ▲ 3 members
Family moved from Taiwan to U.S.; runs Texas-based plastics manufacturer Westlake Chemical Corp.

39 E. W. SCRIPPS
$7.2 billion ▼ 50 members (est.)
Media group E.W. Scripps merged with Journal Communications in April. Newspaper assets were spun out into Journal Media Group.

JASON MILLER/GETTY IMAGES

NEWSMAKERS

49 HASLAM
$6 billion ▲ 4 members
In April their truck-stop company, Pilot Flying J, settled lawsuits brought by 4 trucking companies over accusations of fraudulently withholding fuel rebates. It settled with the Department of Justice in 2014.

41 CATHY
$7 billion ★ 2 members
Sons of Truett Cathy (d. 2014) run 1,900-outlet chicken sandwich chain Chick-fil-A.

42 MARRIOTT
$6.9 billion ▲ 7 members (est.)
Family opened their first motel in Arlington, Va. in 1957. Today J.W. Marriott Jr. chairs Marriott International, with brands including Ritz-Carlton.

43 JENKINS
$6.8 billion ▲ 25 members
George Jenkins (d. 1996) opened first Publix supermarket in 1930. Family owns 20%, employees rest.

44 LEFRAK
$6.6 billion ▲ 4 members (est.)
New York real estate fortune started with farm in 1901. Now owns more than 400 buildings.

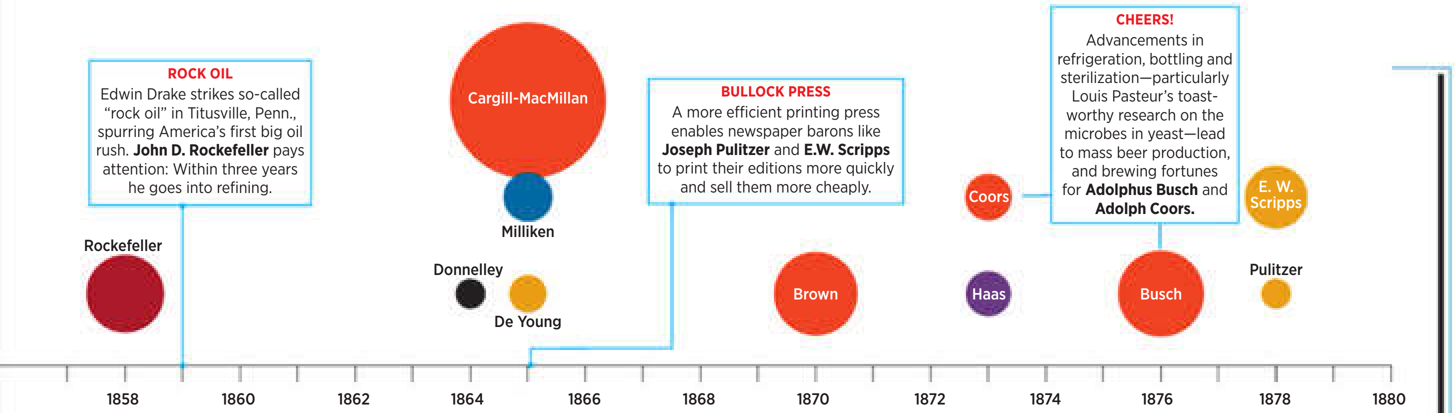
44 PHIPPS
$6.6 billion ▲ 300 members (est.)
Henry Phipps grew rich as Andrew Carnegie's business partner when they sold Carnegie Steel to J.P. Morgan. Phipps started Bessemer Trust with the cash.

46 JOHNSON
$6.3 billion ▲ 60 members (est.)
Robert Wood Johnson cofounded Band-Aid maker Johnson & Johnson in 1886. His great-grandson Woody owns New York Jets.

46 SMITH
$6.3 billion ▼ 60 members (est.)
Chicago banker Byron Smith founded Northern Trust Company in 1889, then Illinois Tool Works in 1912. Descendants own stakes in both companies.

48 BARBEY
$6.1 billion ▲ 12 members (est.)
What started as a Pennsylvania glove manufacturer is now apparel-maker VF Corp., owner of North Face, Lee and Wrangler brands. Barbey family owns 20%.

UP ▲ DOWN ▼ EVEN ▶ NEW ★



49 KLUGE
$6 billion ▶ 5 members (est.)

John Kluge (d. 2010) ran TV and radio group Metromedia before selling stations to News Corp. and Hearst for $2 billion in 1985.

49 TISCH
$6 billion ▶ 5 members

In 1959 brothers Preston and Laurence Tisch (now both deceased) purchased Loews Theaters; now called Loews Corp., with diverse assets. Preston's widow, Joan, owns half of NFL's New York Giants.

49 VAN ANDEL
$6 billion ▲ 4 members (est.)

With friend Richard DeVos, Jay Van Andel (d. 2004) started multilevel marketing firm Amway in 1959. Both men's children oversee the $10.8 billion (sales) business.

53 FRANCE
$5.7 billion ▲ 20 members (est.)

"First Family of Nascar" has controlled the stock-car-racing organization since its inception in 1948.

54 DOLAN
$5.5 billion ▶ 19 members (est.)

Charles Dolan started cable TV firm Cablevision. Family also owns Madison Square Garden and NBA's Knicks. Brother Lawrence owns Cleveland Indians.

54 MORAN
$5.5 billion ▲ 10 members (est.)

Jim Moran (d. 2007) started as a gas station attendant. Began selling Hudsons in 1946, Fords in 1955. Struck deal with Toyota in 1968. Heirs own biggest independent U.S. Toyota distributor.

56 GETTY
$5.4 billion ▲ 28 members

Heirs of oil baron J. Paul Getty, once world's richest man. Grandson Andrew Rork Getty, 47, was found dead in Beverly Hills mansion in March.

56 PEROT
$5.4 billion ▼ 2 members

Ross Perot Sr. founded Electronic Data Systems in 1962, sold it to GM in 1984. He and his son Ross Perot Jr. sold Perot Systems to Dell in 2009.

56 SIMMONS
$5.4 billion ▲ 3 members

Widow and 2 daughters of corporate raider Harold Simmons (d. 2013) inherited his stake in conglomerate Valhi.

59 GORE
$5.2 billion ▼ 24 members (est.)

Bob Gore, a Ph.D. in chemical engineering, accidentally discovered waterproof polymer, which became Gore-Tex, while working in lab.

61 RUDIN
$5.1 billion ▲ 30 members (est.)

New York City real estate developers are partnering with Israeli billionaire Eyal Ofer on a "green" luxury condo project opening in Manhattan in September.

62 ALFOND
$4.8 billion ▲ 4 members (est.)

In 1993 Warren Buffett bought Harold Alfond's Dexter Shoe Co. for $433 million, paying in Berkshire Hathaway stock. Dexter turned out to be a dud. The Alfonds got rich holding on to the coveted Berkshire shares.

NEWSMAKERS

59 DURST
$5.2 billion ▲ 33 members

GERALD HERBERT/AP

Under suspicion for 30 years, real estate heir Robert Durst was arrested and charged with murder in March. Some say he implicated himself in the final episode of HBO's documentary *The Jinx*. His family, one of New York City's most prominent real estate dynasties, behind One World Trade Center and 10 other Manhattan skyscrapers, was "relieved and also grateful," said younger brother Douglas, adding that "we hope he will finally be held accountable for all he's done." Durst's lawyer says he is innocent.

63 GLAZER
$4.7 billion ▲ 21 members

Heirs of Malcolm Glazer (d. 2014) have been selling shares of British soccer powerhouse Manchester United. Also own Tampa Bay Bucs plus 6.7 million square feet of shopping-center space in U.S.

63 INGRAM
$4.7 billion ▲ 5 members

Family's Ingram empire has interests in everything from barges and towboats to beer and DVD distributors.

65 MCCAW
$4.6 billion ▲ 5 members

Four sons of cable pioneer James Elroy McCaw turned their dad's business into McCaw Cellular, which AT&T bought for $12.6 billion in 1994.

67 MILLIKEN
$4.4 billion ★ 35 members (est.)

Five children of textile magnate Roger Milliken (d. 2010) were forbidden to join his company but still own part of it.

69 CHANDLER
$4.2 billion ▲ 200 members (est.)

More than 100 years ago clerk Harry Chandler married daughter of *Los Angeles Times* owner Harrison Gray Otis. He went on to build a media empire.

70 FRIEDKIN
$4.1 billion ▲ 2 members

Thomas Friedkin, a former Hollywood stuntman, founded Gulf States Toyota in 1969; son Dan now runs $7.6 billion (sales) business.

71 COORS
$4 billion ▲ 250 members (est.)

Beer clan still owns more than 15% of Molson Coors nearly 150 years after Adolph Coors started a brewery in Golden, Colo.

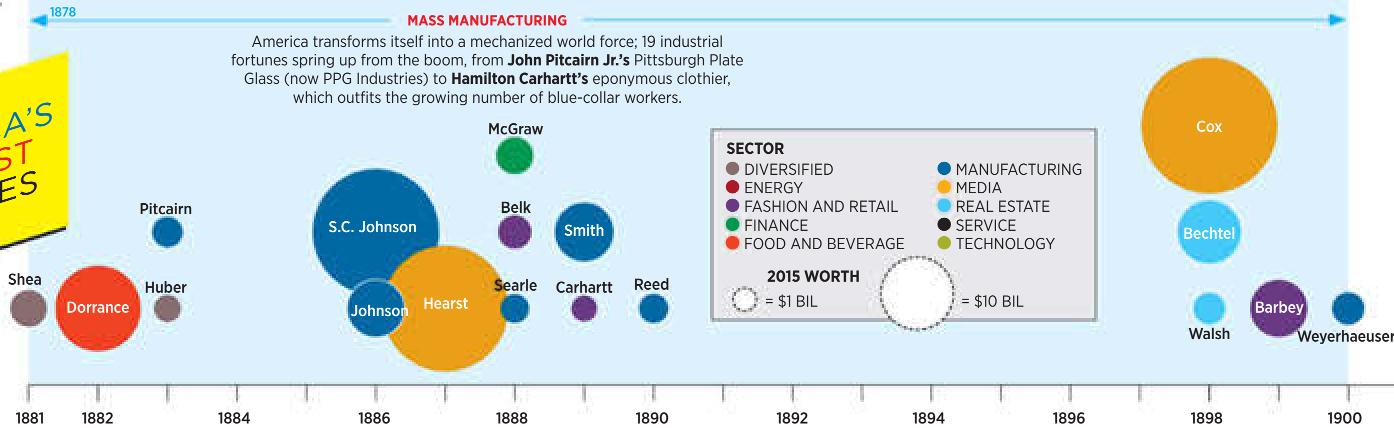
71 WEGMAN
$4 billion ▲ 2 members (est.)

Its Wegmans grocery stores have cultlike following of devoted customers who shop at their 86 stores in 6 states.

73 HASEOTES
$3.9 billion ▲ 8 members (est.)

Owners of 600 Cumberland Farms convenience stores. Ari Haseotes, grandson of founders, is CEO; his aunt Lily Bentas is board chairman.

AMERICA'S RICHEST FAMILIES



73 STEPHENS
$3.9 billion ▲ 3 members

Family's investment bank, Stephens Inc., is famous for having underwritten Wal-Mart's IPO. In February family sold Stephens Media—which owned 8 daily papers, including the *Las Vegas Review-Journal,* and 65 weeklies—for a reported $102 million to New Media Investment Group in NYC.

75 NORDSTROM
$3.8 billion ▲ 11 members

What began as a shoe store in 1901 has become tony department store chain Nordstrom.

75 POHLAD
$3.8 billion ▲ 20 members (est.)

Three brothers own and manage more than 30 businesses, including Minnesota Twins. Family sold PepsiAmericas bottler to PepsiCo in 2010.

78 HAAS
$3.7 billion ▲ 255 members (est.)

Family behind Levi Strauss, one of biggest brand names in apparel, available in 50,000 locations in 110 countries.

79 VAN TUYL
$3.5 billion ★ 8 members (est.)

Cecil Van Tuyl (d. 2012) began hawking used cars in 1948, then acquired dealerships. In March son Larry sold control of Van Tuyl Group to Berkshire Hathaway for $4 billion. He remains chairman of renamed Berkshire Hathaway Automotive.

80 GUND
$3.4 billion ▼ 15 members (est.)

George Gund Jr. sold family brewery during Prohibition and bought coffee company Sanka; traded it for Kellogg's stock in 1927.

80 LERNER
$3.4 billion ★ 3 members (est.)

Al Lerner (d. 2002) helped make MBNA into one of largest credit card issuers in U.S. Three years after his death it was sold to Bank of America.

80 SMITH (RICHARD)
$3.4 billion ★ 10 members (est.)

Richard Alan Smith built father's General Cinema into nation's largest movie theater operator by 1973. Nephew Jeffrey Lurie bought Philadelphia Eagles in 1994 for $185 million; team is now worth $1.6 billion.

83 DEMOULAS
$3.3 billion ▲ 9 members

Settlement reached between warring factions of family that owns Market Basket chain of supermarkets. Arthur T. Demoulas is back as CEO, after being ousted in June 2014.

83 SCHNEIDER
$3.3 billion ▼ 6 members (est.)

Fortune comes from $3.6 billion (sales) Schneider National, trucking company started by Al Schneider (d. 1983), who sold car to buy first truck in 1935.

83 TYSON
$3.3 billion ▲ 10 members (est.)

Tyson Foods, led by founder's grandson John, closed on its nearly $8 billion acquisition of Hillshire Brands in August 2014.

86 KARFUNKEL
$3.2 billion ▲ 5 members (est.)

Hungarian immigrants George and Michael Karfunkel and their families are majority shareholders of insurance firm AmTrust Financial.

NEWSMAKERS

66 RICKETTS
$4.5 billion ▲ 6 members

The Wrigley Field ivy might be next up for a makeover: The Ricketts and other Cubs owners sold equity earlier this year that raised $150 million to spruce up the ball team's home. On a different field, Peter Ricketts was elected governor of Nebraska. His father is family patriarch Joe Ricketts, who made a fortune with TD Ameritrade and bought that stake in the Cubs in 2009. The perennial losers have already been a good investment, doubling in value since the Ricketts' purchase.

86 KERKORIAN
$3.2 billion ★ 5 members (est.)

MGM Resorts International founder Kirk Kerkorian died in June. His estate is expected to go to his daughters and grandchildren.

86 PERDUE
$3.2 billion ▲ 4 members (est.)

Web video showing foul conditions at a Perdue Farm has been seen more than 1.9 million times since 2014 posting. Perdue says it was fault of rogue farmer. Headache falls to CEO Jim Perdue, who runs family's $6 billion (sales) business.

86 UELTSCHI
$3.2 billion ▲ 20 members (est.)

Albert Ueltschi (d. 2012) sold his FlightSafety International to Berkshire Hathaway in 1996 for stock; those shares make up bulk of family's fortune.

90 FERTITTA
$3.1 billion ▲ 2 members

Brothers Lorenzo and Frank Fertitta inherited father's casino business; later acquired rights to mixed-martial-arts Ultimate Fighting Championship.

90 GOTTWALD
$3.1 billion ▲ 7 members (est.)

In 1962 Floyd Gottwald executed a then record buyout: His Albemarle Paper Manufacturing purchased Ethyl Gasoline Corp. Heirs own stakes in Ethyl, now called NewMarket.

90 MILSTEIN
$3.1 billion ▲ 6 members (est.)

Developers of 50,000 apartments, 8,000 hotel rooms primarily in New York area. Succession issues, lawsuits led family to split business in 2003.

93 BRESKY
$3 billion ▲ 3 members (est.)

Has stake in agribusiness Seaboard Corp., which owns half of Butterball, producer of more than a billion pounds of turkey every year.

93 FASKEN
$3 billion ▲ 4 members

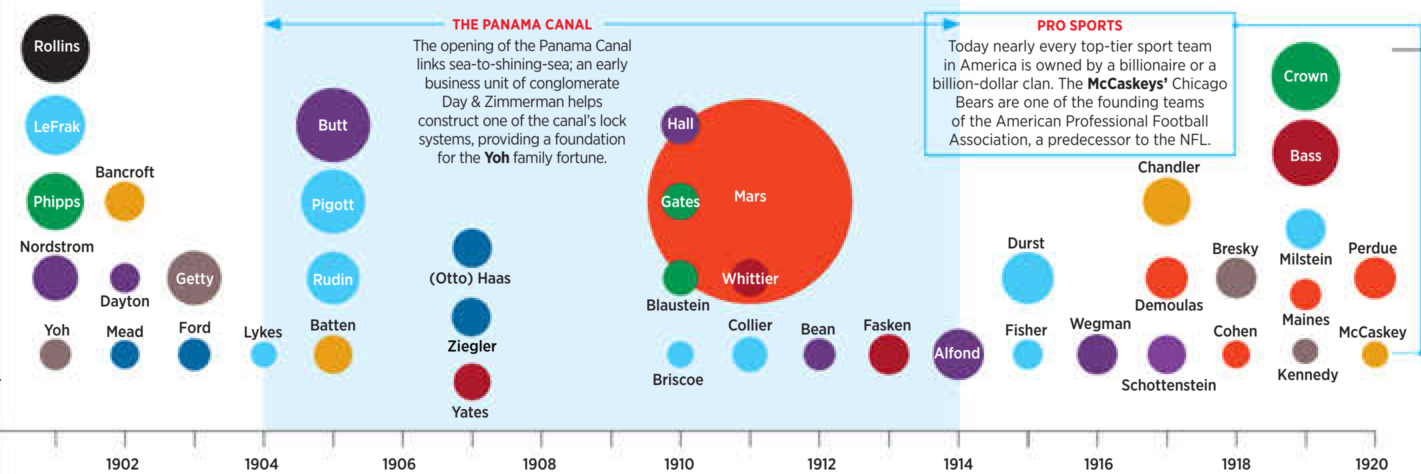
In 1913 David Fasken bought West Texas ranch that turned out to have oil underground. Fasken Oil & Ranch is still privately owned.

95 BANCROFT
$2.9 billion ▲ 30 members (est.)

Family controlled the *Wall Street Journal* for more than a century; sold it to News Corp. in 2007.

NATI HARNIK/AP

UP ▲ DOWN ▼ EVEN ▶ NEW ★

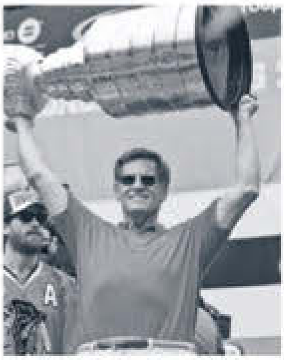


NEWSMAKERS

67 WIRTZ

$4.4 BILLION ▲ 11 members

For third time in 6 seasons the Wirtzes' Chicago Blackhawks won NHL's Stanley Cup. Grandson of founder, Rocky has overseen team since his father's death in 2007. He has also been running family's $2.5 billion Wirtz Beverage Group, a wine and liquor distributor, though he gave up CEO title to son Danny, 38, earlier this year. Rocky's 4 siblings accused him of keeping financial information from the other family members, but they settled the dispute 3 years ago.



TIMOTHY HIATT/GETTY IMAGES

96 BOYLE

$2.8 billion ▲ 3 members

Gertrude Boyle, 91, chairs Columbia Sportswear; son Tim is CEO, grandson Joe is a senior vice president.

96 HAAS (OTTO)

$2.8 billion ▼ 38 members

Heirs to fortune created by specialty chemicals manufacturer Rohm & Haas, which was sold to Dow Chemical in 2009.

96 HALL

$2.8 billion ▲ 3 members

J.C. Hall founded Hallmark in 1910 after arriving in Kansas City at 18 with no money and 2 shoeboxes of postcards.

96 ZIEGLER

$2.8 billion ★ 6 members (est.)

Family's $800 million (est. sales) Swisher International makes cigars. Best known for its Swisher Sweets line of cigarillos.

100 BATTEN

$2.7 billion ▲ 3 members (est.)

Family sold Weather Channel for $3.5 billion in 2008. Its Landmark Media Enterprises sold off assets but owns some newspapers, including the *Virginian-Pilot*.

100 BOOTH

$2.7 billion ▼ 30 members (est.)

Great-grandson of *Los Angeles Times* owner Franklin Otis Booth Jr. invested $1 million in Buffett's Berkshire Hathaway in 1963. Shares were worth more than $2 billion when he died in 2008.

103 ASPLUNDH

$2.6 billion ▲ 130 members (est.)

Pennsylvania clan owns $3.1 billion (sales) Asplundh Tree Expert, started by 3 brothers in 1928.

103 DOBSON

$2.6 billion ▲ 3 members

Family's fast food chain, Whataburger, has more than 770 locations, primarily in southern U.S. Now run by founding couple's 3 children.

103 EPPRECHT

$2.6 billion ▲ 5 members (est.)

Swiss immigrant Hans Epprecht started predecessor to Great Lakes Cheese in 1958 in Cleveland. Family owns 80% of now $3 billion (sales) company.

103 JONES

$2.6 billion ★ 7 members

Marlin Jones bought Dawn Donut in 1955 and, with family, built it into Dawn Foods, which sells baking mixes and more, including Weight Watchers baked goods.

103 WANEK

$2.6 billion ▼ 2 members

Ronald Wanek purchased Ashley Furniture with others 1976, then bought them out. Now America's largest furniture maker, it is exploring a sale.

103 WHITTIER

$2.6 billion ▲ 70 members (est.)

Mericos "Max" Whittier (d. 1925) cofounded Belridge Oil in 1911 and helped develop Beverly Hills. Family sold Belridge Oil to Shell Oil for $3.7 billion in 1979.

109 DE YOUNG

$2.5 billion ▲ 24 members (est.)

Descendants of M.H. de Young, who made a fortune in publishing. Family sold *San Francisco Chronicle* to Hearst in 2000.

109 GOCHMAN

$2.5 billion ▲ 3 members (est.)

Founder's grandson David Gochman sold sporting goods chain Academy Sports + Outdoors to private equity shop KKR in 2011 for more than $2.1 billion.

109 HOLDING

$2.5 billion ▼ 4 members

Family behind storied ski resorts Sun Valley and Snowbasin also owns hotels, nearly 400,000 acres of land and private oil company Sinclair Oil.

109 MAGNESS

$2.5 billion ▼ 4 members (est.)

Bob Magness (d. 1996) was early cable TV magnate; with John Malone he built up TCI. Malone sold it to AT&T in 1999 for $48 billion, and Bob's kids got his share.

109 MCGRAW

$2.5 billion ▲ 11 members (est.)

James H. McGraw purchased *American Journal of Railway Appliances* in 1888; later founded McGraw Publishing Co. Great-grandson Terry stepped down as chairman of McGraw-Hill in April.

109 SHEA

$2.5 billion ★ 20 members (est.)

Business dates to 1881, when John Francis Shea opened one-man plumbing business. Los Angeles-based Shea Homes has built 94,000 homes.

109 YATES

$2.5 billion ▲ 16 members

Martin Yates Jr. was one of the first to strike oil in New Mexico. Family owns oil and gas producer Yates Petroleum.

116 GATES

$2.4 billion ▲ 3 members

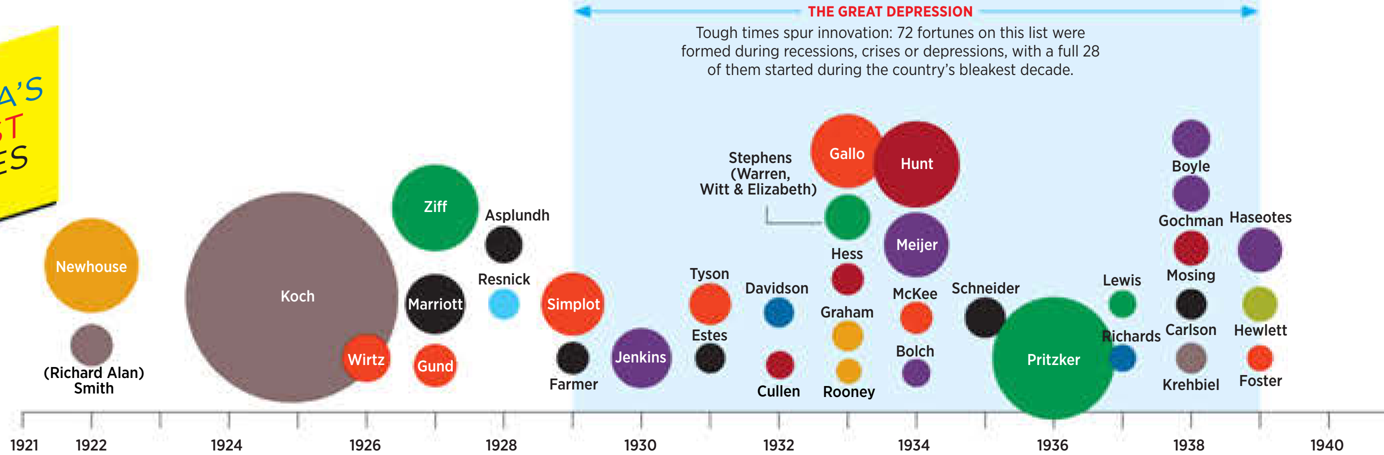
Family sold its rubber business in 1996 to British engineering firm Tompkins Plc. for $1.1 billion.

116 JACKSON

$2.4 billion ▲ 7 members (est.)

Jess Jackson (d. 2011) founded Jackson Family Wines in 1982 in Lake County, Calif. Now run by his wife and 5 children, it has 40 wineries.

AMERICA'S RICHEST FAMILIES



116 WASSERSTEIN
$2.4 billion ▲ 9 members

Dealmaker Bruce Wasserstein (d. 2009) sold investment bank Wasserstein Perella & Co. to Dresdner Bank in 2000 for $1.4 billion.

119 COLLIER
$2.3 billion ▶ 30 members (est.)

Barron Gift Collier Sr. (d.1939) started buying land in southwest Florida after 1911 visit. County in Florida is named after the family.

119 HEWLETT
$2.3 billion ▼ 17 members

William Hewlett (d. 2001) cofounded tech firm Hewlett-Packard in 1939. Several billion dollars went to a charitable foundation that his son, Walter, chairs.

119 MOSING
$2.3 billion ★ 11 members (est.)

In 1938 Frank Mosing started renting tools from his garage in Louisiana. Heirs expanded into oil services with Frank's International, went public in 2013.

122 BLAUSTEIN
$2.2 billion ▲ 30 members (est.)

Heirs of Louis Blaustein, founder of Amoco Oil, which was sold to BP for $48 billion in 1998.

122 CARLSON
$2.2 billion ▼ 9 members (est.)

Carlson Co., started by Curtis Carlson (d. 1999), operates some 1,370 hotels (Radisson, Country Inn & Suites), travel agency Carlson Wagonlit Travel.

122 ELGHANAYAN
$2.2 billion ▲ 8 members (est.)

Iranian-born Nourollah Elghanayan began buying land in Manhattan in 1950s. Disagreement over succession led family to split assets in 2009.

122 SOFFER
$2.2 billion ★ 8 members

In 1967 developer Donald Soffer bought a 785-acre tract of marshland in Miami-Dade County, Fla. Today it's home to the high-end Aventura Mall. Family, including son Jeffrey *(see p. 22)*, owns Miami's Fontainebleau Hotel.

126 ANDERSON (JOHN)
$2.1 billion ▼ 5 members (est.)

Marion Anderson chairs Topa Equities, founded by late husband John. Two of 4 children help run diversified business.

NEWSMAKERS

75 STEINBRENNER
$3.8 billion ▲ 5 members


BRYAN SMITH/ZUMA/NEWSCOM

The Steinbrenners are sitting on top of the world, literally. The opening of One World Trade Center's observation deck means a high-profile perch for their Legends concessionaire, created in partnership with Cowboys owner Jerry Jones. It's a fitting joint venture: while neither got anywhere close a championship in their respective leagues, the Steinbrenners' New York Yankees and Jones' Dallas Cowboys were tied this past year at the top of Forbes' rankings of America's most valuable sports franchises. The Boss, as patriarch George was known, died in 2010. His son Hal now runs the show.

126 ANNENBERG
$2.1 billion ▲ 15 members (est.)

Walter (d. 2002) sold Triangle Media—publisher of *Seventeen* magazine and *TV Guide*—to Rupert Murdoch's News Corp. for $3 billion in 1988.

126 WALSH
$2.1 billion ▼ 2 members

Third-generation brothers Dan and Matt Walsh run $4.6 billion (revenues) general contractor Walsh Group out of Chicago.

129 FARMER
$2 billion ▲ 15 members

Family's uniform-rental business Cintas Corp. supplies outfits for McDonald's burger flippers, W Hotels' bellboys.

129 BELK
$2 billion ▲ 20 members (est.)

Family is considering selling its 70% stake in Belk department stores, which has $4 billion in revenues and more than 300 stores.

129 FORD
$2 billion ▶ 40 members (est.)

Descendants of Henry Ford have 40% of the voting power of Ford Motor, which is chaired by Henry's great-grandson Bill Ford Jr.

129 LINDNER
$2 billion ▲ 7 members (est.)

Carl Lindner Jr. (d. 2011) dropped out of school at 15 to work as a delivery boy for the family dairy. He moved into banking in 1959, starting American Financial. Sons took over as co-CEOs in 2005.

129 YOUNG
$2 billion ★ 11 members

Family owns estimated 56% of Plastipak, which makes containers and packaging for companies like Kraft Foods, PepsiCo and Procter & Gamble. William P. Young and his son Bill founded it in 1967.

134 BEAN
$1.9 billion ▲ 25 members (est.)

L.L. Bean came up with a better pair of winter boots in 1911. Wait list for its boots was 100,000 customers last winter. L.L.'s great-grandson Shawn Gorman chairs $1.6 billion (sales) retailer.

134 BUCKSBAUM
$1.9 billion ▲ 12 members (est.)

Brothers Martin, Matthew (both deceased) and Maurice founded shopping mall owner General Growth Properties in 1954. It filed for largest-ever real estate bankruptcy in U.S. history in 2009. Mathew's son John was forced out as CEO. He started Bucksbaum Retail Properties in 2012.

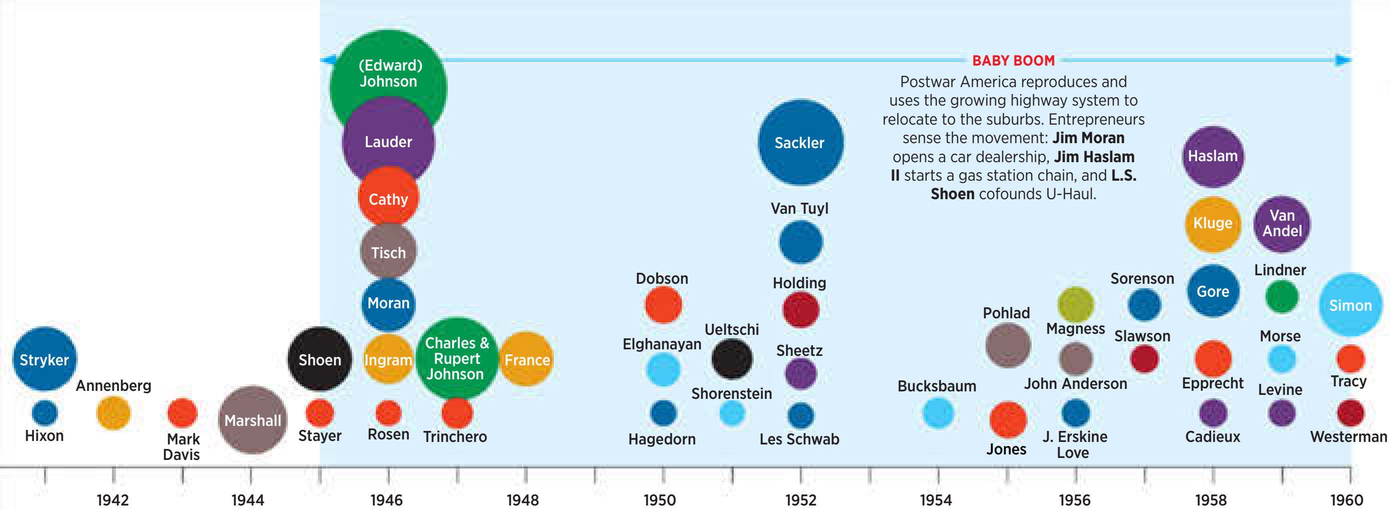
134 HESS
$1.9 billion ▼ 19 members (est.)

Oil firm Hess Corp., founded by Leon Hess in 1933 to deliver oil, is run by his son John. Weaker oil prices lowered Hess shares this year.

134 SHEETZ
$1.9 billion ★ 35 members (est.)

Bob Sheetz bought one of his dad's 5 stores in 1952 and turned it into convenience store powerhouse Sheetz, Inc., with 500 locations in 6 states. Bob's son Stan is chairman, nephew Joe is CEO.

UP ▲ DOWN ▼ EVEN ▶ NEW ★



134 TRINCHERO
$1.9 billion ★ 4 members

In 1947 brothers John and Mario Trinchero purchased Sutter Home Winery in California. Trinchero Family Estates is now 4th-largest wine producer in the U.S. Brands include Ménage à Trois.

139 GRAHAM
$1.8 billion ▲ 5 members (est.)

Family sold *Washington Post* to Amazon.com founder Jeff Bezos for $250 million in 2013.

139 KREHBIEL
$1.8 billion ▲ 3 members (est.)

Brothers John Jr. and Fred sold tech-manufacturing giant Molex, founded by their grandfather, to Koch Industries for $7.2 billion in 2013.

139 MAINES
$1.8 billion ▲ 2 members

Floyd Maines took his father's modest candy company and, with his sons, expanded it into Maines Paper & Food Services, one of the largest food-distribution companies in America.

139 MERAGE
$1.8 billion ▲ 5 members (est.)

Chef America, makers of microwaveable meals Hot Pockets, was founded in 1977 by brothers Paul and David Merage. They sold to Nestlé in 2002 for $2.6 billion.

139 MITCHELL
$1.8 billion ▼ 11 members (est.)

George Mitchell (d. 2013) pioneered the hydraulic fracturing technique—fracking—for unearthing natural gas shale. He sold his Mitchell Energy to Devon Energy for $3.5 billion in 2002.

139 RESNICK
$1.8 billion ▼ 18 members (est.)

Family has built a New York property empire over nearly 90 years. It owns and manages 5 million square feet of commercial office space in Manhattan, another 1.2 million square feet nationwide.

139 ROBERTS
$1.8 billion ★ 5 members

Comcast CEO Brian Roberts' merger attempt with Time Warner Cable was called off in April. His dad, Ralph (d. June 2015), cofounded Comcast in 1963 with the purchase of a 1,200-subscriber cable system in Tupelo, Miss.

139 SORENSON
$1.8 billion ▲ 8 members

James Sorenson (d. 2008) sold his Sorenson Research to Abbott Labs in 1980 for $100 million in stock, which grew to be worth $2.7 billion in 2007, a few months before he died.

139 WALTER
$1.8 billion ▼ 2 members (est.)

Joe Walter Jr. (d. 1997) built Houston Oil & Minerals, sold to Tenneco in 1981, then started Walter Oil & Gas.

139 YOH
$1.8 billion ▲ 3 members

Three brothers own Day & Zimmerman, which has interests in contracting, staffing and engineering.

149 COLSON
$1.7 billion ★ 3 members (est.)

Holiday Retirement Corp., founded by William E. Colson (d. 2007) and his father, Hugh, in 1971, grew to own over 300 retirement communities in the U.S. and Canada. They sold it to Fortress Investment Group in 2007. Family has since started again with Hawthorn Retirement Group.

NEWSMAKERS

100 SCHOTTENSTEIN
$2.7 billion ▲ 200 members (est.)

The Schottensteins have long led some of America's largest fashion retailers, like DSW and American Eagle, but this year they helped orchestrate a $9.2 billion (est.) merger between Albertson's and Safeway. The deal, which created a $55 billion (est. sales) supermarket giant, closed in January. Best known locally not for their companies but for funding Ohio State's basketball arena, the Jerome Schottenstein Center, nicknamed "The Schott."

BRYAN SMITH/ZUMA/NEWSCOM

149 DAVIDSON
$1.7 billion ▼ 10 members

William Davidson (d. 2009), longtime boss of Michigan-based Guardian Industries, built it into one of largest makers of automotive glass.

149 DAVIS
$1.7 billion ▶ 7 members (est.)

Stanley Davis founded food company in 1943. In 1972 his son Mark switched Davisco's focus to cheese. Family sold it in July 2014.

149 ESTES
$1.7 billion ▲ 7 members (est.)

W.W. Estes bought Chevy without a windshield in 1931 and started trucking company. Now grandson Rob runs $2 billion (est. sales) Estes Express Lines.

149 PITCAIRN
$1.7 billion ▲ 200 members

John Pitcairn Jr. cofounded Pittsburgh Plate Glass Co. in 1883, now known as PPG Industries.

149 REED
$1.7 billion ▲ 4 members (est.)

Mark Reed married into family behind Simpson Logging of Seattle, Wash. in 1901. Now descendants are nation's 5th-largest landowners.

149 ROGERS
$1.7 billion ▼ 2 members (est.)

Mother-and-son duo Mary Kay (d. 2001) and Richard Raymond launched direct sales makeup business in 1963 in a 500-square-foot store in Dallas.

149 WEYERHAEUSER
$1.7 billion ▶ 250 members (est.)

German immigrant Frederick Weyerhaeuser and his brother-in-law bought a bankrupt mill in late 1800s. Timber company Weyerhaeuser now boasts 7 million acres across America.

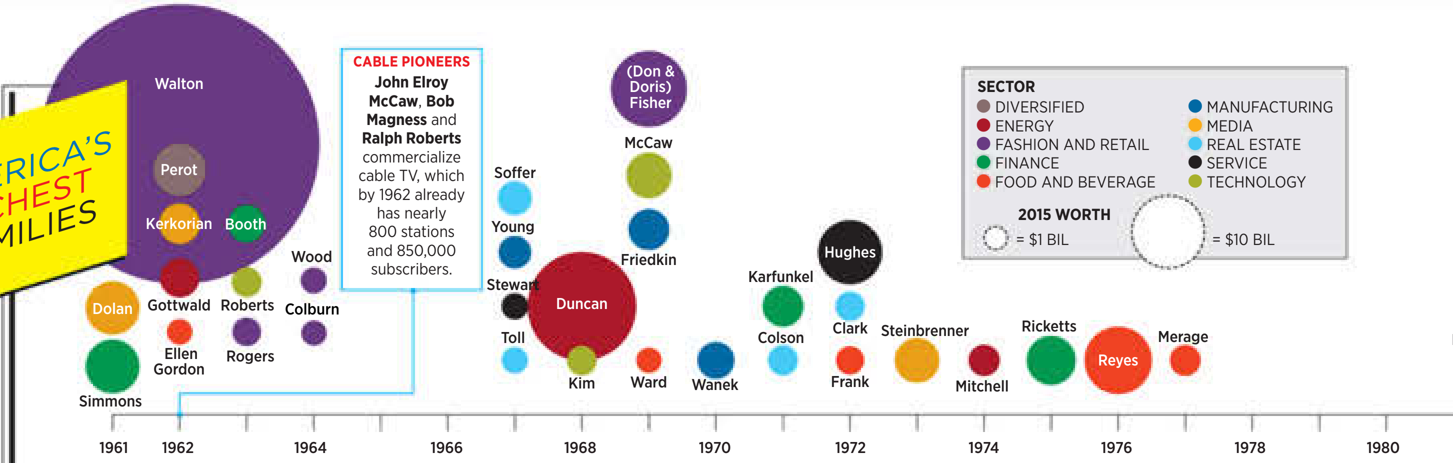
157 CLARK
$1.6 billion ★ 4 members

Construction business of Alfred James Clark (d. March 2015) built sports venues like FedEx Field, also airports, museums.

157 DAYTON
$1.6 billion ▲ 92 members

George Draper Dayton founded Dayton Dry Goods Co. in 1902. The department store started discount subsidiary Target in 1962.

AMERICA'S RICHEST FAMILIES



157 DONNELLEY
$1.6 billion ▶ 10 members (est.)

R.R. Donnelley founded a small printing shop Chicago in 1864. It grew to become printing company R.R. Donnelley & Sons.

157 FISHER
$1.6 billion ▼ 4 members (est.)

Century-old Fisher Brothers has a property portfolio that includes swank Manhattan office buildings.

157 KIM
$1.6 billion ★ 10 (est.)

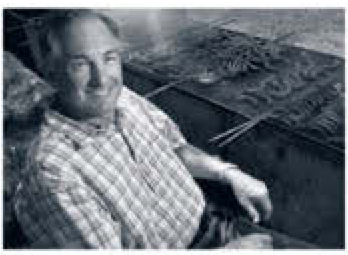
James Kim started Amkor Electronics in 1968 as the U.S. sales partner of his father's Korean chipmaker. He stepped down as CEO in 2009.

157 PULITZER
$1.6 billion ▲ 50 members (est.)

Famed publisher Joseph Pulitzer started by buying the *St. Louis Dispatch* in 1878 for $2,500. His grandchildren sold Pulitzer Inc. to Lee Enterprises in 2005 for $1.5 billion.

163 CULLEN
$1.5 billion ★ 50 members (est.)

Hugh Roy Cullen (d. 1957) discovered oil in Texas in 1932. Before his death he ordered 90% of his fortune be given away. His sons-in-law rebuilt the fortune through oil wells, banking and minerals.



MORRY GASH/AP

NEWSMAKERS

163 STAYER
$1.5 billion ▲ 9 members

After 47 years on the job, in April Ralph Stayer stepped down as CEO of Johnsonville Sausage, the largest private sausage brand in America. Ralph, who is staying on as chairman, was the force behind expanding the smalltown butcher shop his father started in 1945 in Wisconsin.

163 FRANK
$1.5 billion ★ 3 members

Former Forbes 400 member Sidney Frank (d. 2006) sold his high-end Grey Goose vodka to Bacardi for $2.3 billion in 2004. He also imported and popularized German elixir Jägermeister.

163 GREENBERG
$1.5 billion ★ 7 members

Robert Greenberg made first fortune with shoe manufacturer L.A. Gear. He was forced out in 1992 amid losses. Shortly after, he and son Michael started Skechers, which now has sales of $2.4 billion.

163 LOVE (J. ERSKINE)
$1.5 billion ★ 6 members (est.)

J. Erskine Love, Jr. (d. 1987) founded Printpack in Georgia in 1956 with a used cellophane-bag machine. Now it's one of nation's largest makers of packaging materials for food, pharmaceuticals.

163 MCKEE
$1.5 billion ▲ 5 members

Family's McKee Foods makes Little Debbie snacks. The company was founded by O.D. and Ruth McKee, who survived Great Depression by selling 5-cent cakes from back of a 1928 Whippet car.

163 MEAD
$1.5 billion ▲ 35 members (est.)

George W. Mead took over family paper mill in 1902. Son Stanton modernized Consolidated Papers. George II sold it for $4.8 billion in 2000.

163 MORSE
$1.5 billion ★ 5 members (est.)

In early 1980s H. Gary Morse (d. 2014) took over land his father had purchased in central Florida and built The Villages into one of world's largest retirement communities.

163 SEARLE
$1.5 billion ▲ 4 members (est.)

Gideon Daniel Searle founded G.D. Searle & Co. in 1888. It developed Dramamine, NutraSweet, the first contraceptive pill; Searle was sold to Monsanto for $2.7 billion in 1985.

163 SLAWSON
$1.5 billion ▼ 3 members

Over half a century Don Slawson (d. 2014) built up Wichita, Kans.-based Slawson Exploration into one of nation's biggest privately owned oil companies. He turned over control to sons Todd, Craig and Steve in 2009.

163 TRACY
$1.5 billion ▼ 75 members (est.)

Family owns Dot Foods, which orders bulk shipments from foodmakers, then sells smaller loads to local distributors.

174 COHEN
$1.4 billion ▲ 5 members (est.)

Majority owners of C&S Wholesale Grocers, which delivers 95,000 products to supermarkets around the country.

174 LEVINE
$1.4 billion ▼ 4 members (est.)

Leon Levine started Family Dollar with $6,000 loan in 1959. In July 2014 Dollar Tree won bidding war for Family Dollar, agreeing to pay a reported $8.7 billion. Deal had not closed as of June.

174 LEWIS
$1.4 billion ▲ 5 members (est.)

Family's automobile insurer Progressive was cofounded by Joseph Lewis in 1937 and run by his son Peter (d. 2013) for nearly half a century.

174 RICHARDS
$1.4 billion ★ 5 members

Roy Richards began erecting power poles to bring electricity to rural Georgia in 1937. Family's Southwire now world's 5th-largest cable and wire manufacturer.

174 WESTERMAN
$1.4 billion ▶ 7 members

Howard Westerman Sr. (d. 1999) cofounded J-W Operating in 1960 and built it into oil and energy-services firm called J-W Energy. Son Howard is CEO.

179 BOLCH
$1.3 billion ▶ 7 members

Owns and operates RaceTrac, a $9 billion (sales) group of gas stations and convenience stores in 12 southeastern states.

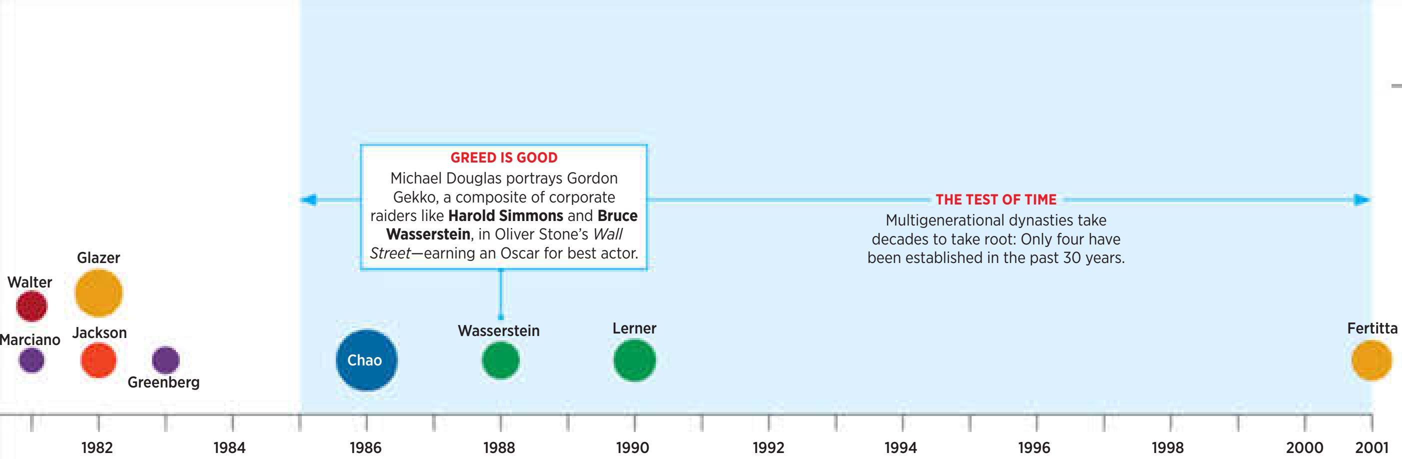
179 BRISCOE
$1.3 billion ▶ 8 members (est.)

Dolph Briscoe Sr. went into the cattle business in the early 20th century. Today business includes more than 650,000 acres of land and some 15,000 cattle.

179 CADIEUX
$1.3 billion ▲ 4 members (est.)

Family is behind some 700 QuikTrip gas station and convenience stores. Founder's son, Chet Cadieux III, runs the company.

UP ▲ DOWN ▼ EVEN ▶ NEW ★



NEWSMAKERS

179 MCCASKEY

$1.3 billion ★ 12 members (est.)

The Chicago Bears haven't won a title since 1985, but the value of the team soared 36% in one year to $1.7 billion as of August 2014. That jump was enough to catapult the McCaskeys, who own an estimated 80%, into the ranks of America's richest families for the first time. Matriarch Virginia (pictured) and 5 of her 11 children, whom she raised to be Bears fanatics, sit on the board.

ALEX BRANDON/AP

179 FOSTER

$1.3 billion ▲ 5 members (est.)

Max and Verda Foster started with a small turkey farm. Today their Foster Farms is one of country's biggest poultry companies.

179 HAGEDORN

$1.3 billion ★ 6 members

Horace Hagedorn and Otto Stern launched fertilizer company Miracle-Gro in 1950. Hagedorn bought out Stern in 1980s. In 1995 he merged company with Scotts; son Jim is now CEO.

179 HUBER

$1.3 billion ★ 40 members (est.)

German immigrant Joseph Maria Huber founded ink company in 1883 in New York City. Now J.M. Huber Corp. makes engineered materials, from wood to food ingredients.

179 SCHWAB (LES)

$1.3 billion ★ 4 members (est.)

In 1952 Les Schwab (d. 2007) purchased a small tire store in Prineville, Ore. Now Les Schwab Tire Centers has 450 stores in 9 western states.

179 SHORENSTEIN

$1.3 billion ▲ 3 members

Doug Shorenstein transformed his late father Walter's San Francisco-focused commercial real estate firm into a nationwide force.

179 STEWART

$1.3 billion ▲ 4 members

Thomas Stewart (d. 2010) joined father's port-support business in Seattle, diversified into food service and built Services Group of America. His son Slade sits on the board of directors.

179 TOLL

$1.3 billion ▶ 2 members

Siblings Robert and Bruce founded Toll Brothers in 1967. Builder is best known for high-end suburban and retirement communities in 19 states.

179 WOOD

$1.3 billion ▲ 196 members

The family behind the Wawa chain of convenience stores and gas stations. Company started out in 1803 as an iron foundry in New Jersey.

191 HIXON

$1.25 billion ▲ 100 members (est.)

Gideon Cooley Hixon made fortune in lumber, railroads. In 1941 son Robert invested in electronic-connectors maker AMP. Tyco International acquired it for $12.2 billion in 1999.

191 ROSEN

$1.25 billion ▼ 5 members (est.)

Tom Rosen inherited his family's livestock business and turned it into America's fifth-largest beef processor, Rosen's Diversified. His father, Elmer, and uncle Ludwig founded the company in 1946.

193 CARHARTT

$1.2 billion ▲ 2 members

Mark Valade runs Michigan work-clothing company Carhartt, founded by his great-grandfather Hamilton Carhartt in 1889.

193 COLBURN

$1.2 billion ▼ 4 members (est.)

Richard D. Colburn made fortune in construction and electrical equipment wholesaling. Son Keith runs Consolidated Electrical Distributors.

193 GORDON (ELLEN)

$1.2 billion ★ 5 members

For more than 5 decades Ellen and husband Melvin Gordon (d. 2015) built Tootsie Roll Industries into a purveyor of Tootsie Pops and more.

193 KENNEDY

$1.2 billion ▲ 30 members

Famous political family netted just over $300 million from sale of Merchandise Mart in Chicago in 1998.

193 LYKES

$1.2 billion ▲ 250 members (est.)

One of nation's largest landowners and biggest producers of citrus fruits,.

193 MARCIANO

$1.2 billion ★ 4 members

Creators of Guess jeans. *See story, p. 100.*

193 ROONEY

$1.2 billion ★ 15 members (est.)

Art Rooney Sr. started the Pittsburgh Steelers in 1933. The team is worth $1.35 billion; Rooneys own estimated 48%.

193 WARD

$1.2 billion ▼ 2 members (est.)

The Wards sold candy company Russell Stover in 2014 to Swiss confectioner Lindt for $1.6 billion.

METHODOLOGY

Unlike The Forbes 400 list of America's richest, which focuses on individual or nuclear-family wealth, America's 200 Richest Families includes clans of all sizes worth a minimum of $1.2 billion. We left out self-made entrepreneurs like Enterprise Rent-A-Car's Jack Taylor, who appear with their nuclear family on The Forbes 400. To value fortunes we added up assets including stakes in public and private companies, real estate. We estimated debts and cash appreciation. For those with public holdings we used stock prices from end-of-day June 19, 2015. We attempted to vet these numbers with all families or their representatives. Think we missed a clan? E-mail readers@forbes.com and we'll investigate. Full bios and methodology are available at forbes.com/families.

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Comisar Knows Best

He can belly up to the original *Cheers* bar and owns a galaxy of *Star Trek* costumes. Now James Comisar wants to boldly go build a museum for his $100 million collection of TV memorabilia.

BY ABRAM BROWN

A severed human head sits in a box on the floor of James Comisar's office in Santa Monica, Calif. There is a bloody gash across the man's neck, and the pale, goateed face stares back blankly as Comisar presents it, Hamlet-like. "This is the head of a biker from *Sons of Anarchy*," he explains. "It ended up in a pot of chili in the episode. It's a piece of art—it's fantastic."

He packs up the head and heads down the hall in his windowless warehouse. Past two sets of bulletproof doors, a table partly obscures a hallway. On it sits a 3-foot brass rail, half gleaming, half rusted. It's a restoration in progress and an undeniable holy relic—part of the original *Cheers* bar. And the 50-year-old Comisar, a one-man Smithsonian of TV memorabilia, owns it. Over the past three decades he has cultivated such a sufficiently expert reputation that CBS, which owned the rights, donated the bar to him in August 2014 in the hope he would restore the piece and publicly display it one day.

Comisar's firm authority on all matters related to the small screen comes from 26 years of amassing more than 10,000 artifacts of television history. He possesses a nebbishy pedantry on the subject—stopping midconversation to spell out a *Star Trek* gadget as t-r-i-c-o-r-d-e-r, not tri-quarter—and dresses with all the casualness of a sitcom extra. Comisar grew up in Los Angeles wanting to become a comedy writer and earned a living for a few years writing jokes for performers like Joan Rivers. But as happens in Hollywood, he found fame less attainable than illusory and so instead plowed his earnings into accumulating TV memorabilia. And he has not only cornered the market ("There are few iconic TV pieces out there," sighs an auction house president. "James has them all!"), he also sometimes sets it, given the strength of his collection.

Down the hall he arrives at what is, basically, a massive walk-in closet, perhaps 1,000 square feet of ceiling-to-floor racks of costumes, a dreamland for childhood dress-up. It contains some of Comisar's most valuable pieces: original Batman and Robin costumes from the 1960s TV series; George Reeves' *Adventures of Superman* suit,

Immaculate collection: James Comisar's small-screen gems include costumes from many of prime time's finest rogues, from Tony Soprano to The Riddler.

ETHAN PINES FOR FORBES

TV treasures (clockwise): Walter White's blue meth; Batman's batarang; George Costanza's wallet.

which is little more than a heavy blue sweater; Ricky Ricardo's blue-and-white-polka-dot smoking jacket and straw boater.

Star Trek uniforms from the original series' first season hang here, too, remarkably intact with the gold sleeve piping and star-burst Star Fleet chest emblem. Most important, they're made from the velourlike material that marks a Season 1 uniform. In later seasons the designers switched to polyester, which helped hide some imperfections—namely, Comisar says, that the *Enterprise*'s captain had grown a little zaftig in space.

Money might be passé in the 23rd century, but in the early 21st, Comisar's best *Star Trek* costumes are worth their weight in dilithium crystals—well, as much as half a million dollars by his estimate. "But I can squint into the future," he says, "and see the pieces being worth $1 million." As in $1 million each.

The market for pop culture memorabilia is booming, and Comisar has seen it coming for years. Last November he sold a Golden Age Hollywood trophy—the original Cowardly Lion costume from *The Wizard of Oz*—for $3 million. The sale was worth it, since he had acquired the piece before deciding to focus exclusively on TV. One memorabilia rival notes that an item's price increases if Comisar is the seller, a sign of respect for his devotion to authenticity and provenance. If Comisar sold smartly and slowly, art market experts estimate, his collection could bring as much as $100 million.

"These are cultural assets, but these are also my assets," he says, explaining his true mission: to open a museum for his collection. His vision? A 30,000-square-foot space with more than a dozen rooms and exhibits tracing television back to its first flicker. The *Cheers* bar, as well as similar contributions from TV deities like *Sopranos* creator David Chase, suggests that Hollywood trusts Comisar with its antiquities. But what he needs are benefactors and eight digits in donations.

Comisar makes some money consulting with celebrities eager to buy memorabilia themselves or preserve items from their past roles. It's enough to increase his acquisitions but not enough to fund his dream. "All it takes is one guy to say, 'Why shouldn't these objects live on as long as the shows?'" he says. Making it harder, Comisar wants a boldfaced name to accompany the money. "I would love to work with someone like a Ryan Seacrest, who has such a personal connection with the TV audience."

And he's still very acquisitive. At a recent buying excursion to Julien's, the posh Beverly Hills auction house specializing in celebrity memorabilia, a clown's outfit interested him. The garment—green zebra stripes and yellow ruffle at the collar—had belonged to Clarabell the Clown from *The Howdy Doody Show*. Comisar wound up passing on it because of its worn condition. He had spotted a red-colored stain on the right shoulder. Maybe ketchup, maybe ... blood?

"If it was John Wayne, that'd be awesome," he says, "but this is Clarabell the Clown." *

FINAL THOUGHT

* *"I find television very educating. Every time somebody turns on the set I go into the other room and read a book."* —**GROUCHO MARX**

TRENDING

What the 70 million Forbes.com users are talking about. For a deeper dive go to FORBESLIFE.COM

PERSON
YOKO ONO
In addition to the opening of her one-woman show at New York's Museum of Modern Art, Ono designed a collection of seven coffee cups based on her 1966 installation "Mend Piece."

COMPANY
PORSCHE
At the newly opened Porsche Experience Center in Atlanta you can get behind the wheel of a 911 Turbo (and other models) and floor it for 90 minutes on a test track, for as little as $300. About the price of a speeding ticket.

IDEA
BILLIONAIRE BUNKERS
Vivos CEO Robert Vicino announced the opening of the Vivos Europa One, a five-star doomsday bunker in Germany that features pools, theaters, gyms—and 2,500 square feet of living space per family.

I Hate Annuities…and So Should You!

The Soothing Sound of Guaranteed Income

Many *Forbes* investors currently own or are considering annuities. After all, they are sold as safe investments, offering dependable and predictable returns, no matter what the market does. And that sounds very appealing, especially after suffering through the worst bear market since the Great Depression. So what's the problem with annuities?

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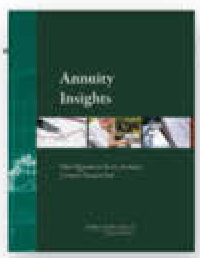
– Author of more than 10 financial books, including 4 *New York Times* bestsellers



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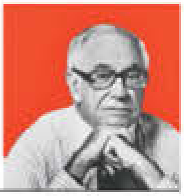
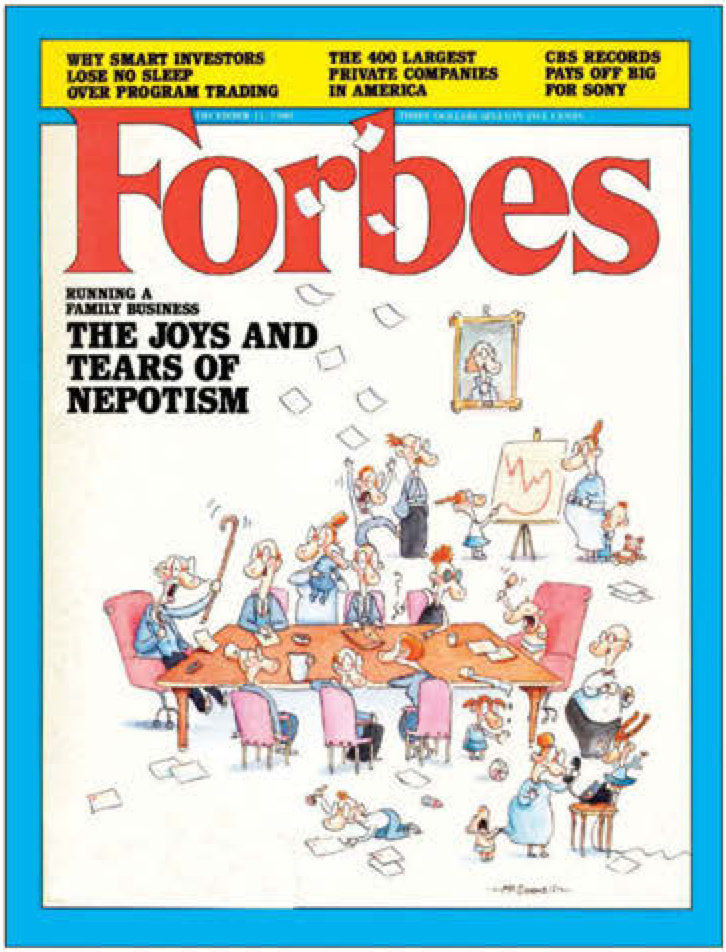
FINAL THOUGHT
"All the mistakes you made with your kids you can avoid with your kids' kids."
—MALCOLM FORBES





"Ah, the family business. So much a constituent of the American dream. So beloved by politicians. So common (there are at least 2 million of them with revenues of over $1 million). And such a delicate thing. Fewer than one-third of family businesses make it into the second generation. And only about half of that group survives to be managed by a third generation."

— FROM THE DEC. 11, 1989 ISSUE OF FORBES

OTHER THOUGHTS FROM THAT ISSUE:

ARABIC FOR "PLUS ÇA CHANGE" *"We may be backing the wrong horse. Saddam Hussein's delusions of grandeur have reached the point where he now publicly claims direct descent from the prophet Mohammed. But his real legitimacy, such as it is, grows from the barrel of a pistol. The whole Middle East is unstable these days but nowhere more dangerously so than in Iraq."*

FALL OF THE WALL *"Hamburg. There's—temperate—exhilaration among Germans. All Germans. Sooner rather than someday, German reunification looms. The eventual fallout from the Wall's fall is mind-boggling."*

ON FAMILIES

"They were a tense and peculiar family, the Oedipuses, weren't they?" **—MAX BEERBOHM**

"A little more than kin, and less than kind."
—WILLIAM SHAKESPEARE

"Despair of peace as long as your mother-in-law is alive." **—JUVENAL**

"It is a melancholy truth that even great men have their poor relations." **—CHARLES DICKENS**

"Train up a child in the way he should go: and when he is old, he will not depart from it."
—PROVERBS 22:6

"The awe and dread with which the most untutored savage contemplates his mother-in-law are among the most familiar facts of anthropology." **—JAMES GEORGE FRAZER**

"The proper time to influence the character of a child is about a hundred years before he is born."
—JOHN ADAMS

"I am married to Beatrice Salkeld, a painter. We have no children, except me." **—BRENDAN BEHAN**

"It is indeed desirable to be well-descended, but the glory belongs to our ancestors."
—PLUTARCH

"I do not know who my grandfather was; I am more concerned to know what his grandson will be."
—ABRAHAM LINCOLN

"If a man's character is abused, say what you will, there's no one like a relation to do the job."
—WILLIAM MAKEPEACE THACKERAY

SOURCES: BLEAK HOUSE, BY CHARLES DICKENS; THE GOLDEN BOUGH, BY JAMES GEORGE FRAZER; SATIRES, BY JUVENAL; HAMLET, BY WILLIAM SHAKESPEARE; VANITY FAIR, BY WILLIAM MAKEPEACE THACKERAY; ON THE TRAINING OF CHILDREN, BY PLUTARCH.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